

CLINICAL MEDICINE

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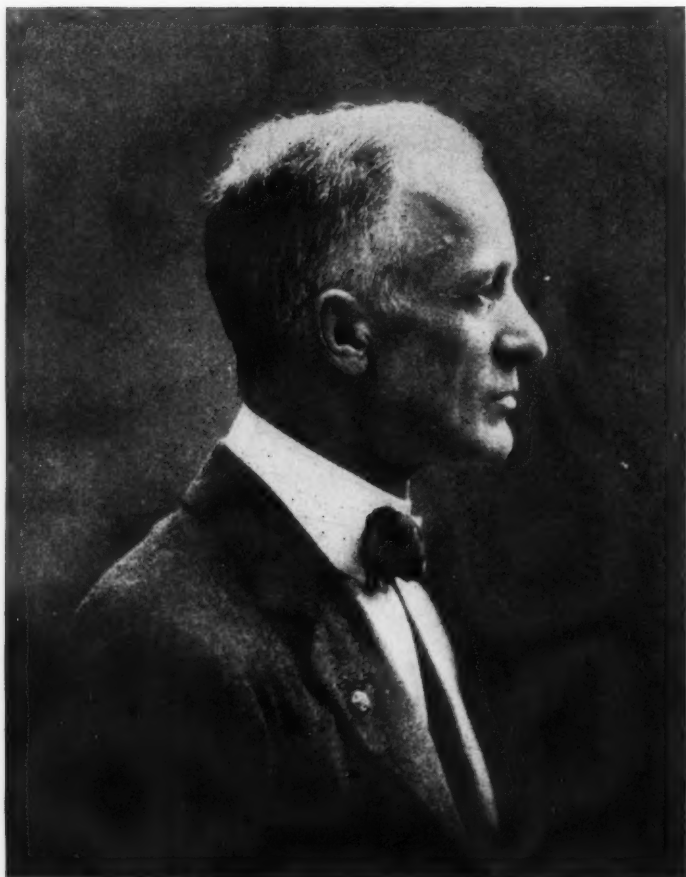
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Clinical Medicine and Surgery

GEORGE B. LAKE, M.D., Editor

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** Editorial **

Dr. Harvey Cushing

Number-One Brain Surgeon

MANY physicians are eminent and capable practitioners of their particular specialties, but in any generation, those whose work is so far above the general high level that they are universally recognized as the number-one men in their line are so few that the fingers of one hand would be sufficient to count them. Of this rare and exclusive company of immortals, in the field of brain surgery, was Dr. Harvey Cushing.

For three generations, in direct line, the male Cushings had been notable physicians, when Harvey was born, in Cleveland, Ohio, April 8, 1869, so it was quite natural that he should follow the family tradition, and become the doctor of the fourth generation. To this end, after taking his bachelor's degree in Arts at Yale University (where he also played on the baseball team) in 1891, he promptly matriculated at Harvard Medical School, from which he received the degrees of M.A. and M.D., in 1895, and immediately became surgical intern at the Massachusetts General Hospital, Boston.

In 1896 he went to Baltimore, as junior assistant on Halsted's surgical service, and became resident surgeon the following year, going on rapidly to the posts of instructor, assistant, and associate in surgery.

During this period of four years, Dr. Cushing made the first roentgenograms that were ever taken at Johns Hopkins Hospital, and did experimental work on cocaine anesthesia, gallstones, and several other matters.

In 1900 he went abroad, with Osler and McCrae,

and studied, for nearly two years, in England, France, Switzerland, and Italy, most of this work being connected with the anatomy, physiology, and surgery of the central nervous system.

When he returned to Baltimore, he asked for the position of neurosurgeon in the clinic, and retained that post until 1912, when he became Mosley Professor of Surgery at Harvard Medical School and surgeon-in-chief to the Peter Bent Brigham Hospital.

During this period, Dr. Cushing became associate professor of surgery at Johns Hopkins and developed his unique and astonishing technics in neurosurgery (including, among others, the subtemporal decompression operation and new methods for hemostasis and suture of the brain) and made fundamental contributions to the world's knowledge of the physiology of the brain, spinal cord, and pituitary.

His earlier operations were failures, but with the vision, courage, devoted industry (it is reported that he sometimes spent *eight hours* on a single operation), and enthusiasm of the true genius, he continued his search for the perfect and successful methods. His confidence and almost unbelievable labors brought their reward!

After two years at Harvard, the World War broke out, and not long thereafter, Dr. Cushing joined the British Expeditionary Force in France. Later he became surgical director of United States Base Hospital No. 5 and senior consultant in neurosurgery for the American Expeditionary Forces, with the rank of colonel. His war serv-

ices were recognized by the conferring of the Distinguished Service Medal of the United States; the Companion of the Bath of England; and the Legion of Honor of France.

The tremendous physical and psychic stress of this work and responsibility could not have failed to leave its mark upon a sensitively organized and frail-looking man like Cushing, and he returned to Boston, in 1919, suffering from peripheral neuritis, which was a handicap to him for the rest of his life, although he continued with his surgical work, in spite of it. To illustrate his superhuman powers of self-control, it is related that, in 1926, while preparing for a difficult and dangerous brain operation, he received word of the death of his only son. After telephoning this shocking news to his wife, he returned to his patient and performed the operation successfully.

In 1932, he gave up his active surgical work in Boston, and the next year was made Sterling professor of neurology and the history of medicine in the Yale University School of Medicine, and held this position until he became emeritus, in 1937.

A complete list of the medical and other scientific and scholarly societies of which Dr. Cushing was a member, and of his special lectureships and the various institutions that conferred honorary degrees upon him, would fill a column of print. Suffice it to note that he was president of the American Society of Clinical Surgery in 1921; of the American College of Surgeons in 1922; of the American Neurological Society in 1923; and of the American Surgical Association in 1927.

Although he cared nothing for the relaxation of sports and social affairs, and rarely engaged in them, Cushing's mind was far from being the one-track affair that is frequently associated with close specialization in medicine. In 1925 he received the Pulitzer Prize for the best biography of the year, for his masterly and massive "Life of Sir William Osler," and in 1928 a collection of his essays was published, under the title, "Consecratio Medici." Besides these books, he contributed to the permanent literature of his profession "The Pituitary Body and Its Disorders" (1912); "Tumors of the Nervus Acusticus" (1917); "A Classification of the Gliomata" (with Bailey, 1925); "Intracranial Tumors" and "The Pituitary Body and the Hypothalamus" (1932).

In addition to these matters, he became deeply interested, during his later years, in medical history, sociology, and economics, and spoke and wrote helpfully on these subjects.

This phenomenal career, embracing enough accomplishment and fame for three men (the world-famed pioneer and clinical surgeon; the teacher in three great Universities; and the author), came to a close, after more than 70 years (44 of which were spent in professional, pedagogic, and literary labors), on October 7, 1939, as a result of the "doctors' disease" (coronary occlusion).

Whatever shaft of stone may be set over the place where his bones rest, the perpetual monument to his great soul will be in the legacy of knowl-

edge and example which he left to the world, and in the hearts of those he taught and inspired.



When love and skill work together, expect a masterpiece.—JOHN RUSKIN.



Observation and Memory

EVERY day we hear someone (and too often it is ourselves) say, "Your face is perfectly familiar, but your name has slipped my mind." This is generally an inadvertent misstatement of the fact: Not that we do not know the man's name; but that it has "slipped our minds." A thing which was never in cannot slip out!

A sage once admonished, "Say not, 'I do not remember'; say, rather, 'I did not observe.'"

What most of us need is, not so much a course in mnemonics, as a good deal of daily, diligent practice in the simple, but regrettably uncommon, art of *observation*. "Seeing we see, but do not perceive, and hearing we hear, but do not understand."

Because most people are eye-minded, more information trickles into our consciousness through our eyes than by way of the other sense avenues. We look at a man or a woman, and carry away some sort of a picture, though it is often hazy. We are introduced (frequently by someone who is not, himself, entirely familiar with one or both of the names, and so slurs or mumbles them), and, not having heard the name accurately, we are so afraid of committing a *faux pas* that we do not ask the man what his name is and repeat it after him. Never having known his name, we cannot "forget" it.

Frequently we do a piece of work which is more or less routine with us, and then have to go back and see if we did it, because, at the time of performance, our minds were elsewhere—we were not observing.

We skim over a piece of reading or study with less than half of the mind focused upon it; and, an hour or a day or a week later, have not the remotest idea what it was that we read or studied. This is not failure of the memory; it is ignorance of and lack of skill in the art of attentive observation.

If we would all devote some time and real effort to fixing the attention rigidly upon any work we are doing or any important occurrence which takes place within the scope of our perceptive powers, we would be surprised at the rate with which the faculty we call "memory" would grow and sharpen.

No one can teach us to observe nor to remember. One may point the way by which those powers can be cultivated, but he who would possess these faculties must develop them by his own efforts. It is worth the time and energy expended, for the man with responsive senses and a disciplined mind lives in a world far larger than that of the slipshod shirker who can never "remember."

PROGRESS IN THE SCIENCE AND ART OF MEDICINE—1939

ALTHOUGH research has been proceeding steadily all the time, it has happened that, during 1937 and 1938, no great number of new drugs, procedures, and apparatus reached the stage where they could be announced to the members of the medical profession as being ready for their use. But the past year has seen a good many matters, which bid fair to be of great importance, brought to clinical proof and commercial production. We shall try to mention some of those which appear to us to be of the greatest interest to the largest number of physicians, especially general clinicians.

From the broad standpoint of the general welfare of the medical profession (and thus, indirectly, of the people at large), it seems quite possible that the most important occurrence of the year may prove to be the organization of the National Physicians' Committee for the Extension of Medical Service, which is discussed elsewhere in this issue.

General Research and Diagnosis

The past year has seen the establishment of the Warner Research Institute, and several large bequests for research to various universities, notably those by the estate of the late Dr. W. C. Abbott, totaling \$2,500,000, to Northwestern and Chicago. No one can prophesy what new developments will result from these large expenditures, if they are disbursed intelligently. Some of the current researches in biology are discussed elsewhere in this issue, by Dr. W. A. N. Dorland.

Clinical research is proceeding with the recently isolated vitamin K and the drug *phthiocol* (prepared from human tubercle bacilli), both of which are giving encouraging results in *hemorrhage*; also with the highly concentrated (10,000 U.S.P. units to a capsule) vitamin A preparation, "Afaxin," developed by the Winthrop people.

An immense amount of clinical and laboratory research has been done on the *estrogens* and *androgens* (an excellent summary of the work with the latter substances will be found in Dr. Gorrell's article, which begins in this issue), and we are beginning, at least, to get a fairly sound idea of the complex and far-reaching functions of these hormones in the human organism.

It is a bit difficult to realize that, slightly more than a year ago (an advance report upon it, under the name of "M & B 693," was made by Merck & Co., September 9, 1938), *sulfapyridine* was still in the experimental stage. Its place in therapeutics, and that of *sulfanilamide*, now seem to be thoroughly established; but both of these drugs are so toxic that active research is in progress to find one that will be equally effective and less poisonous. Two new products now look hopeful: *Hydroxyethylapocupreine* (a derivative of quinine) and *sulfamethylthiazol* (which is effective against *staphylococci*). Neither of these drugs is yet available commercially.

In the field of *diagnosis*, the rapid popularization

of *pneumococcus* typing, using rabbit serums and the Neufeld-Sabin method, probably possesses the widest interest. Most good clinical laboratories can now do this work, promptly and for a reasonable fee; and in most of the larger cities the state and public health laboratories will do it free, for indigent patients (and sometimes will also furnish the appropriate serum to treat them).

The Offner *direct-writing electrocardiograph* and Janjigian's "*Basometer*" (which sells for less than \$50 and will enable any physician to calculate *basal metabolic rates*, simply and accurately) will place two important diagnostic aids at the disposal of many physicians who have not, heretofore, felt that they could use them, directly and personally.

Therapeutics

The most dramatic therapeutic event of the year is the astonishing way in which *sulfapyridine* has cut down the mortality in *pneumonia*, in spite of its toxicity and somewhat unpredictable effects. In this disease, *rabbit serums* are rapidly taking the place of horse serums, because they are more concentrated and safer. They are also being used along with *sulfapyridine*, in late or complicated cases.

The injection of *local anesthetics* into muscles, joints, and other tissues, for the *relief of pain*, is gaining rapidly in popularity, *with good reason*. Pain, of itself, is destructive, and is the symptom which most often brings a patient to the physician. In selected cases, here is a method by which the physician can *do something* for the patient *promptly*, and thus earn his gratitude while doing him real good. Dr. Winters' articles, which are now running, should help any clinician to master the indications and the necessary technics for giving these injections.

Now that we know that *estrogens* and *androgens* are effective when rubbed into the skin, a number of elegant and potent preparations for their *percutaneous administration* have been made available, and deserve intelligent use by the profession.

Among a number of new remedies (or new applications of old ones), to which doctors in general may well give attention, we will mention a few:

Dilantin Sodium (Parke, Davis & Co.) is now procurable commercially, for the treatment of *epilepsy*, and appears to be effective and safe.

A filtrate of minced *maggots*, with antiseptics and anesthetics ("*Prolarmon*"), can now be obtained, for the treatment of *indolent ulcers* and *chronic suppurations*.

Epinephrin dissolved in peanut oil ("*Slow Epinephrine*"—Squibb) controls the paroxysms of *bronchial asthma* for from 8 to 16 hours. These people are also introducing a new *local anesthetic* ("*Intracaine*"), which is said to be more rapid, longer-lasting, freer from untoward effects, and no more toxic than procaine.

Progesterin (*Lutein*—H. W. & D.) is giving good

results in the treatment of *threatened abortion*, *placenta previa*, and *abruptio placentae*.

Other amino acids than glycine are now offered commercially (as "Aminoids"—Arlington), for use in *convalescence*, *chronic diseases*, and other conditions where fatigue and anorexia are factors.

Testosterone propionate is being used, with good results, in certain cases of *peripheral vascular diseases* and *menstrual disorders*.

Physical Therapy

While electrotherapy, in its various branches, is going steadily forward, with constantly added minor improvements in apparatus and technics; and pyretotherapy is becoming more stabilized, as to indications and methods, there have been no striking innovations in this field during the past year.

On the other hand, *treatment by manipulation*, with or without the injection of local anesthetics, is steadily growing in use and favor. Several papers and demonstrations on the various manipulation technics have appeared on the programs of important medical meetings recently. The current series of articles by Dr. Winters and the book by Fisher (see "C.M.&S." for December, 1939, page 491) should give general practitioners a sound basis for learning these technics, and such knowledge and skills should add materially to their prestige and income, and save many patients from falling into the hands of "irregulars."

Birth Control

The release from the hampering restrictions of the archaic "Comstock" laws as to contraceptive information, and the centralization of all the national groups devoted to the popularization of this knowledge, in the Birth Control Federation of America, have given a tremendous impetus to this line of work, which may well prove to be more important for the public welfare than any other development of this century. Every physician should be qualified and prepared to give this instruction to every married woman who asks for it.

The State of North Carolina is the pioneer in establishing this vital service officially, on a state-wide basis, and boasts that, at present, there is not a spot in the entire commonwealth more than 50 miles from a birth-control clinic. The results have been so highly satisfactory that the sister state, South Carolina, has recently embarked upon a similar program, while other states (notably Georgia and Arizona) are watching with keen interest and may be expected to join the procession of progress soon.

The *Journal of Contraception*,* to which every general clinician might profitably subscribe, is a thoroughly professional, monthly publication, presenting the scientific advances in this field in a dignified and truly helpful manner. Extensive research is constantly in progress, not only as to technics and materials, but along the lines of sociology,

public health, and all the various aspects of this truly vital problem.



To read text-books is easy, but to do research work is to grapple, inch by inch, with the obscure, and battle, step by step, with the unknown.—DR. VICTOR ROBINSON.



Physicians Are Waking

For a number of years, forces highly inimical to the welfare of the medical profession and to the people at large have been deliberately undermining that profession by insidious propaganda, with the apparent purpose of ingulfing it in a program of State Medicine, in which the care of the sick would become a perquisite of the self-seeking politicians, to be used for their individual purposes.

Physicians have repeatedly been warned that, unless they would undertake, on a cooperative basis, to assume the leadership in making such changes as are required by the vastly changed conditions of modern life, some politicalized plan, which would be disastrous to the quality and progress of medical service, would be forced upon them.

It now appears that, at last, the medical men of this country are waking to the peril that threatens them—and their patients—and that concerted and effective action is about to be taken.

On November 18, 1939, in Chicago, the **National Physicians' Committee for the Extension of Medical Service** was formally organized and the work is getting under way to: (1) "Make possible the providing of medical service to the indigent and those in the low income groups, and insure the most widespread distribution of the most effective methods and equipment in medicine and surgery; and (2) to assume the responsibility of countering destructive propaganda by familiarizing the public with the facts in connection with the methods and achievements of American medicine."

This is an *entirely independent* group, well organized and sponsored by men of the highest repute in the profession. The list of its executive board and central committee contains many nationally-known names. The funds for the campaign of public instruction which is about to be launched will come from *voluntary contributions*, made by members of the medical and all its allied professions, and by lay individuals and groups that are interested in the maintenance of the private practice of medicine and all the many and obvious advantages that go with it.

We have frequently called attention to the dangers that imminently threaten the national health, and the personal welfare of all members of the medical profession, but heretofore we have been unable to offer *specific* suggestions as to what a physician could do to protect himself, his patients, and his community from the inroads of political bureaucracy. Now we can make such a suggestion: Send as large a contribution as you can (the *average* contribution received, up to December 11, has

*Address, 17 West 16th St., New York, N.Y. Subscription price, \$1.00 a year.

been \$22.03), immediately, to Dr. N. S. Davis, III, Treasurer National Physicians Committee, 700 North Michigan Avenue, Suite 207-9, Chicago, Ill., and ask him what else you can do to help in this *vital* important program. Then get the literature of the Committee and urge all your patriotic and intelligent friends, in and out of the profession, to take a hand in the protection of *their own* interests. Many laymen are contributing.

Do not think of this as a contribution to charity or as an *expenditure*, but as an *investment*, the same as *life insurance*—for it is life insurance, for all rightminded physicians, in a very real sense.

The time is *late*—far later than most of you believe—but it is not, we hope and pray, *too late*, if the members of our glorious profession will see their duty, to themselves, their families, and the nation, and will *do it without delay*. Remember, Congress will have reconvened by the time this is read, so prompt and positive action must be taken.



The man who complains that he is not getting enough is usually not giving enough.—*Let's Go.*



Thought Hunting

PHYSIOLOGISTS find, when they experiment with the electric stimulation of nerves, that, after a time, the muscular contractions resulting from such stimuli become, gradually, less and less powerful until, finally, there is no response whatever. A graphic representation of these weakening reactions is known as the curve of fatigue.

This fatiguing process extends, like most, if not all, activities in nature, far beyond the field where it is most readily and objectively demonstrated by the experimenters. In another field of nervous reactions, the ear may become so accustomed to loud and continuous noises that they no longer make an impression on the consciousness. This is a species of auditory fatigue.

These things are matters of common knowledge; but few persons ever stop to think that this same process carries over into the emotional and mental fields, as well as operating on the physical plane.

Most visitors in the Swiss Alps, or to our own stupendous Rocky Mountains, are overcome by the majestic beauty of the panoramas which unfold before them; but the people who live, the year round, in these towering wonderlands become so habituated to them that they seem commonplace.

Most persons who find themselves in a position of physical danger exhibit a series of symptoms resulting from the excitation of the endocrine glands, which is produced by the emotion, fear; but the soldier in battle and persons who are engaged in hazardous occupations in time of peace—structural steel workers, steeple-jacks, aviators and the like—while mentally conscious of the risks they run, have had their emotional responses tired out, so that they do not show the clinical picture of fright, although they may be, in the colloquial phrase, "shaking in their boots."

This emotional fatigue and the resulting apparent callousness and stoicism are Nature's coat of armor for those who, for some reason, must earn their bread in the pursuit of dangerous callings. Without this peculiar form of anesthesia, such persons could not remain in these vocations. If the emotional shock and stress continued undiminished, they would be prostrated in a few days.

But, while this deadening of the faculties of perception and appreciation may, under certain circumstances, be desirable or even necessary, it does not confine itself to the salutary spheres, but spreads its leaden mantle over territories of the psychic life which should be bathed in the sunshine of joy and enthusiasm, so that beauty and truth, viewed too closely and continuously, may cease to cause a brightening of the eye, a quickening of the pulse, or any uprush of spiritual exultation.

Those who suddenly discover that this vivid and multifarious earth is losing its lure, and life is ceasing to be a zestful adventure, will find an antidote or a remedy in a homely and hand-hewn philosophy: Not the highbrow dialectics of the schoolmen and the self-proclaimed "intellectuals," but a sensible and reasonable consideration of the forces which underlie and determine daily contacts and conduct and all the affairs of living.

By no means everyone is interested in the involved, often incomprehensible, and sometimes iconoclastic metaphysical hairsplitting of a Nietzsche or a Croce; but, since "the object of philosophy is to put an end to pain," no man, woman or child is so wholly exempt from struggle and suffering as to be able to afford to miss the strength, help, and light which come from a penetrating and concentrated study of the "little things" of life and of the interlocking relationship between them and the rest of the cosmos.

The study of *how* things are done and phenomena take place (which is the mission of science) may become a monotonous and tiresome routine at times, even to eager scientists; but while the human mind is constituted as it now is, an inquiry into the *why* of things (which is the purpose of philosophy), if conducted in terms which are readily understandable, cannot fail to stir the imagination and intrigue the curiosity of all who have reached the true status of *men*, for we must remember that that short and meaningful expression comes from the Sanskrit word, *Manas*, which signifies "a thinker."

Even occupations and tasks which may appear drab, savorless, and menial will, when touched by the magic wand of philosophy, develop unexpectedly stimulating possibilities; and phrases which, by frequent repetition without thought, have become trite and void of capacity to move us, will suddenly become endued with surprising vitality and power.

It will be worth the while of everyone who thinks at all to acquire the habit of spending a few minutes *each day* in quiet and serious ponder-

ing or meditation upon some specific art or job or word or idea, until the real inner essence of its purpose and meaning begins to become plain. After one successful adventure into the domain of *individual* philosophic speculation, the adventurer almost invariably becomes an addict, for the pursuit of thoughts into the lair where they hide is the most exciting sport in the world, because, among other reasons, it is a distinctively *human* form of activity, to be indulged in only by those who are truly and fully men, in the ancient sense, and we all enjoy doing something which we feel sure is beyond the capacity of certain other people.

There is no fragment of the activities of the physical body, the emotions, or the mind, which is so small and apparently valueless that it cannot serve as a basis for such speculation or may not harbor something of wholly unexpected worth and beauty, to be discovered when the hard, dull crust of familiarity is broken.

It is sad—and wholly unnecessary — to watch our friends, our relatives, and ourselves growing old. And this distressing process, in its most uncomely aspects, need not take place, for it depends less upon the passing of a certain number of years than upon the waning of enthusiasm—the loss of the eager, questing attitude toward life and the world. This attitude can and should be retained, even into far-advanced years, by the regular practice of philosophic speculation.

Those who say that they have no time for such exercises *have no time to live*, for the mere continuance of a vegetative or animal existence is not living, in the human sense, and should not be so considered. Many walk among us who have been dead for years, or have never been alive at all.

Let us look at the affairs of every day with the keen and widely opened eye and the inquiring mind which characterize the philosopher. Let us become confirmed and inveterate *thought hunters*!

A man of discrimination sees few things worthy of genuine admiration; a stupid person marvels at nothing; and a fool is astonished at everything. — "Dictionnaire Philosophique" (1764).

Power and Purpose

IF one pours a handful of gunpowder on the ground and ignites it, there will be a brief flash, harmless except, perhaps, to the person who touches it off, and that is all. No work will be done.

If the same powder is confined in a rifle cartridge, with a bullet in front of it and the barrel of the piece in front of the bullet to direct its course, it may, if aimed in the necessary direction, cut short a useful career or precipitate a great war, without doing any immediate physical harm to the man who fires the rifle.

This is a homely illustration of the difference between power operating without and with *purpose*. Any youngster of five can touch off a pile of gunpowder in the street; but it took much thought and labor to conceive and produce the modern methods of confining and using this power for a definite purpose, constructive or destructive.

A great many people seem to be vastly concerned about the present distressing plight

of the Western races, particularly the United States, and, specifically, certain more or less limited sections of the population. Most of these individuals, having no definite objectives in what they mistake for their minds, explode all over the place in puffs of words which consist of about ninety-nine percent heat and one percent light. If the energy they waste could be confined and directed, it might blow the side off a mountain or put an end to the promulgators of some grave abuse.

Power is what moves the universe; but, uncontrolled and undirected, it is, at best, useless, and, at worst, highly dangerous to the man who generates or releases it.

What most of us need urgently is *purpose*—a clearly seen goal of effort—in the use of the power we all possess, more or less. If we would spend half the time in real, constructive *thinking* that we waste in "sounding off," or half the effort in finding ways to cooperate with our fellows toward a common end, that we throw away in confusing and damning them and asserting our own "rights," we could "remold this sorry scheme of things nearer to our hearts' desire" before next summer.

NEXT MONTH

Dr. Carl C. Howard, of Glasgow, Ky., will describe (with illustrations) a simple method for spinal anesthesia.

Dr. Charles J. Drucek, of Chicago, will discuss the treatment of hemorrhoids with sclerosing injections.

Dr. G. Hubert Artis, of Cedar Rapids, Ia., will present a preliminary case report of the intravenous use of hydrochloric acid as an adjuvant in the treatment of diabetic coma.

COMING SOON

"Peptone Broth in Peritonitis: A Report on 106 Perforated Appendix Cases," by C. Grant Bain, M.D., M.S., Centralis, Wash., and Harry Feagles, M.D., Chehalis, Wash.

"Medical Men in Music," by Theo. S. Proxmire, M.D., F.A.C.P., Lake Forest, Ill.

★ *Leading Articles* ★

New Principles in the Vaccine Treatment of Chronic Rheumatism

By

H. WARREN CROWE, D.M., B.Ch. (OXON.) M.R.C.S. L.R.C.P., (LOND.),

London, Eng.

Senior Physician, Charterhouse Rheumatism Clinic

FOR the doctor to do something definite, rational, and with the hope of cure for his arthritic patients, is a great asset to his practice. With perseverance and the necessary skill in technic, this can be effected by stock vaccine treatment in 50 percent of *all* cases. The same applies to non-articular rheumatism.

This is clear from the records of the Charterhouse Rheumatism Clinic, where some 7,000 cases have been treated, of which 67 percent suffered from some form of arthritis and 23 percent from non-articular rheumatism. Of all these, whether in one group or the other, 50 percent of the cases have shown an excellent result and 30 percent more were improved. But a small proportion received autogenous vaccine. This experience is supported by doctors using the same treatment all over the world. The method is fully described in two of my books ("Rheumatism," John Bale Medical Publications, Ltd., 1939, and "Handbook of the Vaccine Treatment of Chronic Rheumatic Diseases," Oxford University Press, 1939, 3rd edition.)

Apart from results, the reader may enquire what justification there is for vaccine therapy. It is based on the view that all manifestations of chronic rheumatism are caused through many etiologic factors—trauma, chill, age, faulty metabolism, or what not—but also, in *every* case, a local infection by the patient's own normal domestic germs. Hence the importance of foci of infection. These germs are essentially streptococci, of many varieties and of extreme type specificity, and staphylococci. Therefore, a polyvalent vaccine of the former must be used.

Our stock vaccine consists of streptococci of 200 different varieties, partly dissolved, and of staphylococci of the three great types, aureus, albus, and flavus. *Both must be used in every case.**

Now it is a fact that vaccine treatment, by both stock and autogenous vaccine, has been tried for many years, but the great hopes which inaugurated this method have met with disappointment and it was largely given up. This has now been proved to have been due to faulty technic. Proper vaccine, properly given, is a more successful method of therapy in rheumatic disease than any other ever devised.

Apart from the vaccine treatment, other considerations must be kept in view, especially foci of infection. In some forms of arthritis, foci must

be sought and removed at an early stage of treatment; in others, foci should not be touched until the patient is almost "cured."

Osteo-Arthritis

In osteo-arthritis, as a rule, the general health is good. It occurs in older people and the joint distribution is irregular. It is seen most commonly in the terminal joints of the fingers and the proximal joint of the big toe; then in the knee, the spine, the hips, and more rarely in the elbows, wrists, and shoulders. The x-ray picture is characterised by loss of cartilage, cavitation, and the formation of osteophytes.

There is a very early stage of osteo-arthritis which should be distinguished from non-articular rheumatism. This is clearly important, as in the former case the end-result, if unchecked, is much more serious. Osteo-arthritis is preceded by erosion of cartilage, which is invariably demonstrable in the knee joint by means of the patellar sign. This sign is elicited by pressing the patella down on the condyles of the femur and, while the leg is held straight but relaxed, pushing the bone from side to side and rubbing the two cartilaginous surfaces together. It is, as a rule, quite easy to feel the sensation of crepitus in the very earliest stage of cartilage erosion. This occurs in every case of osteo-arthritis, without exception, whether there are symptoms in the knee joint or not. Where the cartilage is seriously denuded, very coarse, rough crepitus can be felt; but where the osteo-arthritis is not in the knee, but, say, in the spine, hip-joint, or elsewhere, then a very fine crepitus occurs.

When a patient complains of some form of non-articular rheumatism, osteo-arthritis should be excluded by the method just described. It must be understood that non-articular rheumatism is quite commonly found in conjunction with arthritis, but the patient will be classified in the more serious category.

Where the patient is over forty, foci of infection should not be radically treated, unless or until it is clear that, as a result, the general health is suffering. The removal of the focus is not likely, in any direct way, to improve the "arthritis," the reason being that in these cases the infective factor is small. Osteo-arthritic changes, as shown by x-rays in patients under forty, are not of this type, but there is always an active infection and the case should be treated as an active infective arthritis.

*This vaccine can be obtained from Reynolds & Branson, Leeds, England.

Atrophic Arthritis

Atrophic arthritis should be divided into two groups: *rheumatoid arthritis* and *active infective arthritis*, although this is not commonly done in America. The reason for the distinction is that, in rheumatoid arthritis, it is very dangerous to in-

old. It was based on the view that an increased blood immunity was the object of treatment, and that the larger the dose, the better the result. This is definitely wrong, for I have now established the principle that, for every patient at any given time, there is an *optimum dose*. The only principle of

TABLE I

	<i>Rheumatoid Arthritis</i>	<i>Active Infective Arthritis</i>
Prodromal signs	(1) (a) Weakness of intrinsic muscles of feet, causing flat-foot. (b) Weakness of intrinsic muscles of hands. (c) Creaking neck. (2) (a) Pain and tingling sensations, or numbness, in the fingers and often the feet. (b) Muscular cramps.	Pain in one or two joints.
Swelling	Symmetrical, bilateral, of the fingers.	Irregular joint involvement.
Appearance	Bluish, semi-cyanosed complexion.	Anemic.
Extremities	Blue, cold, sweating palms, glossy skin.	Seldom changed when joints not involved. Usually warm.
Sub-patellar erosion	Negative.	Positive.
X-Rays	General decalcification of bone.	Local decalcification of the affected joint.

terfere with foci of infection; whereas, in the active infective condition, foci should be dealt with at once.

In rheumatoid arthritis, foci should be removed only where, *as the result of treatment by vaccine*, the disease is quiescent. Let it not be forgotten that, in every form of atrophic arthritis, adequate bodily rest is essential to success.

In both types, a general disease is in progress, with a rapid blood sedimentation rate. Table I shows the difference between these two types. In all later stages, mixed forms are found.

Spondylitis Adolescents
(*Marie-Strümpel Syndrome*)

Adolescent spondylitis should be recognized in a very early stage, as x-rays show the presence of a symptomless bilateral sacroileitis. If treated in time, the disease is invariably arrested by vaccine therapy. Therefore this stage must be looked for, and all patients under the age of 25 years must have roentgenograms taken of the pelvis. It usually attacks athletic young men and women, and it ends in a calcified, rigid spine and, quite frequently, ankylosis of the hips and shoulders. The prodromal signs are vague, wandering, rheumatic pains and, as a rule, intercostal rheumatism. The patellar sign is positive; the blood sedimentation rate increased.

Technic of Treatment

To understand the new technic of vaccine therapy, we must realize what was wrong with the

treatment is to seek and continue the optimum dose.

To recognize the optimum dose, one must realize that there are four effects which may follow an injection: (1) A *general reaction*—anything from severe nausea and fever, to a slight degree of sleepiness; (2) *focal reaction*—increase of pain or swelling in the joints or muscles; (3) *response*—a definite and clear-cut immediate improvement and feeling of well-being; (4) *nothing at all*.

Patients are apt to forget that they felt slightly sleepy and unable to concentrate within the 24 hours following an injection. This is, however, a sign of general reaction. Focal reaction, or increase of pain in the affected parts, they are not so likely to forget.

The optimum dose is that which is followed by the longest *response*. A larger dose will be followed by a shorter response. If the effect of an injection is good, repeat the same amount. Adopt then the motto, "Stick to the optimum, however small."

Response is always followed by "*relapse*"—a return of symptoms, perhaps severe. The next injection must be given either at the end of a week, or when the relapse appears, *whichever is longer*. After any general reaction, give *one-tenth* of the last injection, and continue to reduce the dose by ten as long as reaction occurs. After a purely focal reaction, in early stages, reduce to one-fifth; in later stages, to one-half.

Remember that, from the very start of the treatment, people become more and more sensitive

and require, as a rule, *smaller and smaller doses!* The reader is strongly recommended to work through the following examples step by step, covering over the dates and uncovering them successively, so as to appreciate the effect of the individual injections.

The examples taken are of those cases of *active infective arthritis* in an early stage, which usually go from one form of treatment to another, becoming steadily worse, despite all efforts to relieve them. There were no obvious foci of infection.

Case Reports

Example 1: A woman, aged 45, developed an early case of the active infective form of atrophic arthritis. An otherwise healthy woman found that her hand was beginning to swell. Three months later she presented herself for treatment with considerable swelling, pain, and stiffness in the metacarpophalangeal joints of the first and second fingers of the right hand. On *examination*, subpatellar erosion could be easily detected, although there were no symptoms referable to the knee joints. Stock vaccine treatment was used throughout, and the following doses were given on the days specified:

May 4, 1939: Dose, 0.1 million streptococci.

A focal reaction followed, shown by increased pain and swelling in the affected parts.

May 11: Dose, 0.1 million, mixed staphylococci.

There was no change, but towards the end of the week the swellings increased. This may be regarded as a "relapse" after the original streptococcus dose. Although it appears that this injection was without effect, both vaccines must be combined in all future doses.

May 18: Dose, 0.01 million strepto- and staphylococci.

This was followed by a general and focal reaction, lassitude, and a general feeling of ill-health. Note here that this reduced dose was given on account of the reaction following the first injection.

May 28: Dose, 0.001 million of each vaccine.

This tenfold reduction was followed by a week of complete freedom from pain, but the patient complained of general weariness and disinclination for work. Here, then, was a slight general reaction, but no focal reaction.

June 8: Dose, 0.0002 million of each vaccine.

A fortnight later: Two days of focal reaction, followed by improvement.

June 15: Dose, 0.00004 million of both vaccines.

This was followed by a very good week, and the six-weeks' report on the patient was: "Swelling completely disappeared; freedom from pain." Towards the end of a fortnight some relapse occurred.

June 29: Dose, 0.00004 million of each vaccine.

The dose was repeated, and four good days followed, then a relapse. The question arises as to whether the dose was too large or too small or, alternatively, that the symptoms of relapse were coincidental. To test this matter:

July 6: Dose, 0.0001 million of each vaccine.

This dose, $2\frac{1}{2}$ times as large as the previous one, was followed by a definite and lasting reaction, shown by increased swelling and pain.

July 13: Dose, 0.00004 million of each.

Pain and swelling disappeared. (We can assume that the relapse following the dose given on June 29 was a coincidence).

July 20: Dose, 0.00004 million of each.

The week that followed was not too good, but this was regarded as being due to severe changes in the weather.

July 27: Dose, 0.00004 million of each. Five good days followed.

August 3: Dose, 0.00004 million of each. Again the weather provoked symptoms.

August 10: Dose, 0.00004 million of each vaccine.

August 17: Dose, 0.00004 million of each vaccine.

Since then the patient has not reported for treatment, and the three-months' report was: "General health, extremely good; hands completely recovered."

Example 2: A man, aged 35, showed early signs of arthritis of the active, infective type, in the hands, fingers, elbows, and knee-joints. Details of the vaccine treatment follow:

May 30, 1939: 0.1 million streptococci. No change.

June 6: 0.1 million staphylococci. Extra pain and stiffness in both legs and arms.

June 19: 0.01 million mixed vaccines. Hands very much better.

June 26: 0.01 million of each. Very well for six days; then a slight relapse.

July 3: 0.01 million of each. Relapse after five days.

July 10: 0.01 million of each. Relapse after four days. The dose was slightly reduced.

July 17: 0.005 million of each. Kept well for four days.

July 24: 0.005 million of each. Some relapse, after slight reaction.

July 31: 0.002 million of each. Remained well for fourteen days.

August 14: 0.002 million of each. Reaction; afterwards better. The dose was therefore reduced.

Sept. 8: 0.0005 million of each. The report was excellent. The patient will probably require a few more injections, although no symptoms remain.

It will be seen that, in the practice of this technique, various dilutions are required, and the following are recommended for use in 10 cc. bottles with rubber caps:

0.5 million streptococci per cc.
0.5 million mixed staphylococci per cc.

Of these, 0.2 cc. is the initial dose.

0.5 million streptococci and staphylococci per cc.
0.05 " " " " " "
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If the injection is not having the desired effect (no reaction, but an indefinite result), try a much smaller dose, say one-hundredth part. Be very careful to enquire and not to miss reactions to the first two doses. If there is a reaction to the staphylococci, very minute doses will, as a rule, be required.

It may be that facilities are available for a bacteriologic investigation and the preparation of an autogenous vaccine. These, if thought necessary (where a definite focus of infection is discovered), should be combined, in equal proportions, with stock vaccine and given in the same doses.

Difficulties

Difficulties arising in this type of treatment are due either to mistakes on the part of the physician or extreme sensitiveness on the part of the patient.

The former will gradually be overcome through experience. They are generally caused by overdoses in the early stages.

Where patients are extremely sensitive, so that they cannot tolerate, without considerable reaction, doses of 0.00001 million streptococci combined with the same number of mixed staphylococci (though even smaller doses than this may be given), the difficulty may often be surmounted by mixing the vaccine with a strong local anesthetic, such as a 4-percent solution of benzamine lactate.

If there is a tendency for a reaction, provoked after a very small dose, to subside in the course of four or five days, the extension of the interval to a fortnight, or even three weeks, is indicated, and often overcomes the difficulty.

The commonest cause of extreme sensitivity is the presence of a closed focus of infection, and it is at this stage that search should be made. It must be borne in mind that the actual interference, surgical or otherwise, with a focus of infection causes an auto-inoculation, which may be extremely severe, and such interference must, therefore, be spaced in relation to the vaccine injections. Consider, for example, several infected teeth. One or two should be extracted at, say, fortnightly intervals, a dose of vaccine being given in between. If a reaction should occur, this should be allowed to pass off before the next item on the programme.

Do not begin by experimenting on a case of severe atrophic arthritis. Try the method first on young people and children, as they are easier to treat and invariably respond. In children under fourteen years, the weight is, with very few exceptions, an excellent guide. If it goes up, the dose is right; if not, the dose is wrong. The initial doses are the same as those for adults.

If you do decide to try this treatment on a severe case, begin the injections with 0.00001 of a million streptococci and staphylococci; repeat that dose once or twice; and then, if *no effect whatever* is produced, give 0.0001 of a million.

Never forget the importance of *rest*, either general or partial, to joints (by splints or bandages). At first, do not complicate this treatment by other therapy; later, add physical therapy, as advisable; but remember that massage, heat, ultraviolet and shortwave treatments, etc., all tend to provoke *autoinoculation*. If you use them, leave a day or two before and after giving vaccine.

Continue the injections regularly, until the symptoms are in abeyance. Then lengthen the intervals, depending always on the tendency of the symptoms to recur. Relapse governs the interval, which may be as long as two to three months.

66-60 Weymouth St.

Progress in Psychiatry

By

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PROGRESS in psychiatry during the past year may be compared to the "mopping up" process following a major military offensive which has reached an objective, but leaves in its rear much detail work that must be cleaned up and cleared away.

Psychiatry is a member of the family of medical sciences, yet it has always been set apart, a step-child. Traditionally man's culture has conceived of a soul, an immaterial part of man. This spirit-man has been considered, since the dawn of abstract thinking, to be something apart from the material man, who is seen and heard each day as he walks about and does his daily work. This spirit-man directs the body in its activity and is responsible for its misbehavior and malconformity. The sins and wrongs that man commits against his fellow man are the result of some abnormality of this ethereal person who lives temporarily in the body of the material man. A constant conflict is conceived to be going on. Man's body, the flesh, leads him astray, and the soul, his better, more high-seeking part, pulls him back into the path of good behavior. The very words used to designate the study of the mental processes are derived from the Greek mythological Psyche, the personification of the soul or spirit. In all early philosophies the mind and soul were considered to be the same, and all early superstitions and polytheistic religions conceived of many spirits who

worked their charms, both good and bad, upon man in his daily life.

It is not difficult to understand why the abnormal mental reactions were so tied to theological and metaphysical thinking during the middle ages. Witchcraft in its several ramifications, black magic, and evil spirits were supposed to have gained control of the individual and to be directing his abnormal actions. Even today we speak of one being "possessed."

As man's knowledge grew and the nervous system was recognized as the controlling organ of the body, scientists began to believe that the mind was different from the soul, and that the mind was located in the brain, from whence it controlled and guided the body in its usual daily activity, while the soul or spirit was more passive, but still entered into the ethical and spiritual life of the individual. But the mind, as they conceived it, was hardly a scientific term, as it was closely tied to the soul or spirit. The word "mind" comes from a Greek word meaning spirit or disposition, as well as from the Anglo-Saxon meaning memory, thought. The influence of metaphysics is found in all of the thinking about the mind and the mental processes of a hundred years ago.

Physicians who interested themselves in psychiatry and the psychiatric patient, at the close of the last century, had no scientific standards upon which to base their analyses of their cases. They did

not have the advantage of even the crude pathology of the day, with which to check their observations. Scientific study of the etiology and prognosis was impossible, so it is no wonder that mistakes of concept were common among the early psychiatrists. They could only observe, describe and catalog. It seemed to them that psychic disorders fitted themselves into several airtight compartments of classification, and from this work our modern terminology resulted. It is important, however, to realize that this terminology is based entirely upon the presented symptoms. Etiology does not enter into this classification.

At the turn of the century, the classificationists, led by Kraepelin, were in full control of the thinking in this field, and it was deemed that the physician's duty had been done when the case was properly classified, cataloged, and filed away. After all, treatment of the different types was essentially the same; diagnostic and prognostic opinions could not be checked by pathology, the laboratory, or by therapy; and up until twenty years ago psychiatry went its separate way. It was a medical "science," but a science that was so surrounded by superstition, so rigid in its thinking, and so foreign to the field of practice of the average physician, that a psychiatrist was considered to be a "queer person" himself for even interesting himself in such a type of work. The average physician did not understand it, and could see little reason why he should.

When some new scientific discovery was made, when some new laboratory or pathological procedure was worked out, serious efforts were made to apply these to the mental patient. The "general parietic" and the "senile dementia" were taken out of the older groupings and set apart as "organic." The rest were left in the functional class, "cause unknown." Anatomic medicine could not grasp, as yet, the interplay of the many functional parts of the human organism, and psychiatry could not move ahead much further. We were, and still are, waiting for physiology and biochemistry to solve the sequence of the cycles of life before the real causes of the functional psychoses can be clearly understood.

Twenty years ago the work of Freud, Jung, and Adler began to emerge from the debris of the Great War, and psychoanalysis was popularized. These concepts were so abstract at times, so colored by metaphysical and theological concepts, that often they seemed to the practicing physician to have no place in the family of medicine. Psychiatry seemed to be moving further and further away, until even the laymen would ask the director of a psychiatric clinic if there were any physicians on the staff. The physician completely lost interest in something he could not understand, and it seemed, on the surface, that psychiatry might secede from medicine.

Physiology, as it advanced, began to open up new vistas for the scientific psychiatrist, and biochemistry and endocrinology contributed their share of knowledge. It began to dawn upon the thoughtful men that the mind and the body were not two separate entities, struggling one against the other for control of the organism, but rather they were one. The mind was not abstract and mysterious, but rather was only a physiologic reaction of the whole organism to its environment. Reaction is a physiologic function of all animal life, from the lowly ameba up the scale to man

himself. The mind is the highest correlating function of the organism, which makes it possible for a complex creature to keep alive in a complex environment. It is the mechanism of withdrawal from noxious forces and the mechanism of attraction to food, as observed in the ameba, carried to their highest known degree. It is a function of the whole body, not of the brain alone, and is influenced by and influences the whole body, in health or in disease.

This is the growing concept of the day, and is psychiatry's most important advance. It is, as yet, in the stage of hypothesis and experimentation, and may not, at present, seem to have much importance to the man in the ranks. But it does! As this study of body-mind relationships and body-mind unity is opened up and the loose ends pulled together, the physician will find in it the solution of what he considers to be the most troublesome part of his practice, the so-called neurotics. The neurotic will never be cured by symptomatic drugs, but the time will come when he can be cured by readjusting his physiologic processes.

Shock Therapy and Toxicoses

Probably the greatest impetus was given to the concept of the indivisibility of the body and the mind by the introduction of shock therapy several years ago. Abnormal mental reactions, hitherto considered as hopeless, were "cured" by physiologic reactions. As violent as these procedures seem to be on the surface, they are a severe physiologic shaking up. We do not know why or how these procedures work, but the interest in psychiatry which these treatments have stimulated, among physiologists and chemists, has opened up many avenues of study which eventually will answer the many questions about the chemistry and metabolism of the brain. This organ will be recognized as a physiologic structure, its mystery will be stripped away, and psychiatry will become a true medical science, in every sense of the word.

"Shock therapy" is here to stay—until some better means of adjustment is discovered. The search is on for new convulsants which might eliminate metrazol and the complications which arise during that type of therapy. The techniques are being studied and the procedures improved, so that the mortality rate and the complication rate of the treatments are falling rapidly. Nearly every psychosis itself carries a mortality rate. Untreated and custodial cases of schizophrenia die at the rate of about five percent a year. Insulin and metrazol treatment has an expected mortality of about one percent. Follow-up records show that, during the first year after treatment, another one percent will die. Shock therapy apparently, therefore, saves about three percent of the deaths which would ordinarily occur each year among several types of mental patients. I am sure that this figure will be improved upon as our knowledge of these procedures increases.

Results from shock treatment cannot, as yet, be correctly analyzed. The psychiatric life of an individual is his *whole life*, from birth to death. The five-year "cure" dictum cannot be applied to psychiatry. Therefore, many years must pass and careful follow-up studies be made before we can say definitely that these treatments are going to live up to their early promise.

The study of the importance of toxic substances in the etiology of mental states has progressed rapidly in recent years. This work has helped

a great deal in the determination of the unity of man as a functioning whole. Toxic delirious reactions result, not from the direct action of poisons, but from the breakdown of the whole functioning organism. Liver, kidney, heart, and circulation dysfunctions enter into the various cycles which manifest themselves as "delirium" and delirious-like reactions.

Senescence and Paresis

As a result of these studies, the whole subject of the mental states of senescence have been reopened. It has been considered, for many years, that arterial and glial-fibrotic changes in the brain were responsible for all of the various psychic disturbances that develop in that period of life called "old age"; but we are now beginning to understand that almost any of the various types of mental disorders that are seen in younger people, may develop in the years after 60, and that these patients can be treated just as successfully as the patients who develop these conditions in younger years. There are still many cases of "senile" mental states that result from arteriosclerosis with encephalomalacia, and from that pathologic entity known as Alzheimer's disease, but it is being rapidly demonstrated that these two entities are responsible for only a small percentage of the abnormal mental reactions seen in the twilight of life.

The study of the treatment of the mental reactions seen in syphilis is going ahead, with improvement of methods and technics. There have been practically no changes in the chemotherapy methods, and in many centers malaria is still the treatment of choice. However, the study of the effect of externally applied heat, with a hyperpyrexia response, is moving ahead rapidly. Results, to date, indicate that the various types of fever cabinets are probably as effective as malaria or, according to some investigators, more so. These studies will go forward, and the time is not far off when general paresis will be a clinical rarity.

This very brief summary indicates the many studies that are being made in the fields of pathology and physiology, which indicate that more and more of the problems of psychiatry are being and will be solved by applying the standard scientific principles of modern medicine. Internal medicine

has and will contribute much to modern psychiatry but, on the other hand, modern psychiatry can contribute much to the practice of general medicine. The following paragraphs by Watters aptly express the place of modern psychiatry in the modern medical world:

The Field of Psychiatry

"The teaching of psychiatry is no longer limited to a few hours in the clinical years of medicine. Therapeutic necessity, advances in medical education, and the development of broader attitudes on the part of laymen, practitioners, and teachers, have fostered its growth to a point where it is recognized as being one of the basic courses in the medical school. There was a time when it was considered strictly a medical specialty. It is, of course, true that one may advance oneself to the point where one has specialized knowledge and ability in this field of work, and put special emphasis on it in one's practice; however, psychiatry in general is not a specialty and is not taught as such to undergraduate students. Essentially it deals with the range and variation of personality functions, and in the final analysis is obligatory for a broad knowledge of medicine.

"The student is reminded that psychiatry is not a specialty and is not taught as such in the modern medical school; it is, instead, a fundamental part of medicine. It is a *curative* science (in its correct sense), now growing rapidly because it is so badly needed and because the public demands help from the medical profession for its 'mental' as well as its 'physical' ills.

"The practice of modern medicine demands a knowledge of psychiatry if the physician is to maintain the public's faith in organized medicine and strive toward preventing and overcoming the iniquities of the quack, the charlatan, and the cults. In addition, there are workers in other fields who are fully convinced that they are capable of meeting and treating psychiatric patients without the realization that psychiatry and psychotherapy absolutely demand, for their foundation, a medical education which is inclusive of psychobiology, psychopathology, and psychiatry. This trend, if disregarded by medical teachers and students, will bring serious and dangerous inroads into the peer of professions—medicine."

27th St. and the Paseo.

THE NEW PSYCHOLOGY

A few years ago a co-ed freshman told her mother the wonderful things she was learning about psychology. The mother listened dutifully, but was unimpressed. "I have always known those things," said she, "but we used to call it common sense instead of psychology."

Briefly and in the language of laymen, the new psychologic idea is that you shouldn't think about yourself at all. Simply get busy at something that will occupy your mind, and forget yourself.

That must be good psychology, for it is the common sense taught and proved by countless generations. It always has worked and it always will work.—ROBERT QUILLEN.



REPUDIATING PEOPLE

Mistakes in getting people born are worse than mistakes in taxes or expenditures. Bad as repudiating a debt may be, repudiating a million people is worse—it's impossible!—ROBERT C. COOK, in Collier's.

A New Type of Wound Closure

By

FREDRIC L. WILSON, M.D., F.A.C.S., Sioux City, Iowa

DURING the past ten years, many things have been developed in surgical procedures to lessen fear and apprehension, to combat shock, to reduce postoperative distress and discomfort, and to shorten the time of hospitalization.

Sedation with barbiturates, given by mouth, or the administration of a preliminary hypodermic

sutures without bringing them across the incision.

It has always seemed to me that silkworm-gut, tied in any manner across the incision, must be a source of considerable annoyance and pain, particularly if tied too tightly. Too often this is done with the thought that it makes for better hemostasis. Often sutures cut into the tissues, if they become edematous, before the proper time for their removal.

With the comfort of the patient in mind, I have utilized the deep silkworm-gut suture, shown in the accompanying drawings (Figs. 1 and 2), for the past three years. During that time, it has been used in approximately 550 cases. The results have been so gratifying that I believe this report to be justifiable.

Three things have been impressive in the use of this type of closure:

- 1.—Lessening of tenderness in the incision.
- 2.—Fewer hematomas and superficial postoperative infections.
- 3.—Deep sutures are removed with less discomfort to the patient than when tied across the incision in any manner.

In this method of closure, skin needles are fixed on either end of the silkworm-gut strand, onto the middle of which has been threaded a small piece of rubber tubing (Fig. 1, A) about three-quarters of an inch to an inch in length. Both needles are then inserted through the skin and subcutaneous tissues on the same side of the wound, the fascia is caught, and the needles brought through to the opposite side. The needles are put through parallel, the distance between them corresponding to the length of the piece of rubber tube, and, after the wound is closed with dermal sutures or wound clips, a piece of rubber tubing of similar size (Fig. 1, B) is threaded onto one of the silkworm strands, which are then tied. Several such sutures may be placed, if required. It is important that the tying be not tight enough to produce any distortion in the contour of the incision or of that portion of the abdominal wall. However, sufficient tension is necessary to hold the pieces of tubing flush with the skin.

In removing the suture, it is a simple matter to grasp the rubber tubing on one side with a thumb forceps and to snip the silkworm at either end. Then, by grasping the tubing on the opposite side, both strands are easily pulled through. Having the patient inspire deeply when the strands are pulled through assists greatly in their loosening and, at the same time, is of psychologic assistance. Patients make very little complaint with the removal of this type of deep suture.

Of the 550 cases on which this type of suture was used, 434 were in "clean" cases. Of this number, only 2 developed hematomas; 12 developed superficial infections resulting in superficial drainage. One of the latter cases developed a deep-seated infection and a postoperative hernia resulted.

As in the closure of any incision, good hemostasis is essential. Aside from the comfort of the patient with this type of closure and the ease with

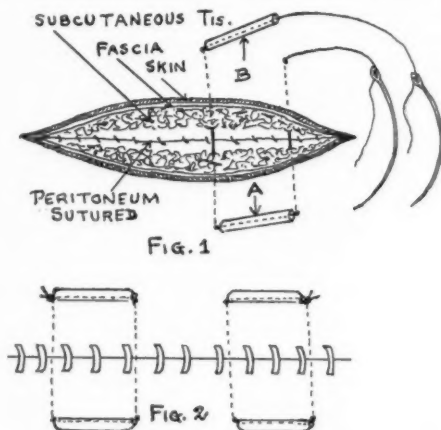


Fig. 1: Diagram of placement of stitches.

Fig. 2: Wound completely closed.

injection of some derivative of opium, relieves a great deal of the anxiety and apprehension before entering the operating room. With the various types of anesthesia now in use, there is a lessening of operative shock, due to better relaxation, and most of the inhalation anesthetics employed are easier for the patient to take than they were in the days when ether was used almost entirely.

Undoubtedly, with more attention to pre-operative care, and improvement in the different types of anesthesia, there has resulted a decrease in post-operative complications from anesthesia. Due to the lessening of surgical shock by methods commonly employed for the preparation of the patient, by wise choice of the kind of anesthesia employed, and by the more advanced post-operative care, we have been able to give patients better postoperative comfort.

Three years ago, it occurred to me that it might be possible to relieve some of the pain and discomfort incident to superficial wound closure. Several types of wound closure have been, and still are, being used, most common of which is that with skin clips, or closure of the line of incision with dermal sutures, reinforced by deep silkworm-gut sutures, which are tied directly over the wound, over pieces of rubber tubing, or over a buffer of gauze.

Buttons have been used on either side of the incision, for the purpose of fastening the retention

which the deep sutures are removed, I believe that it is a much better type of deep suture to use because of the lessening of interference with the circulation of the wound and of the resulting edema,

which often occurs when sutures are brought through and tied over the wound in any manner.

503 Fifth St.

Progress in the Diagnosis and Treatment of Pneumonia

By

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THE greatest progress in the present-day knowledge of pneumonia is the better understanding of its bacteriology. Although a number of different bacteria, such as the streptococcus, Friedlander bacillus, influenza bacillus, etc., may be causative agencies, the most important organisms in pneumonia are the several types of pneumococci, which together are responsible for about 95 percent of all cases.

The extraordinary work of Cooper and her co-workers, in identifying 32 different types of pneumococci and thus eliminating the older concept of only four groups of these organisms, has had a revolutionizing effect on both diagnosis and treatment of pneumonia, for by this work the avenue to the study of specific serum therapy was opened.

It is no longer adequate for the physician to diagnose the presence of pneumonia clinically or to determine the extent of involvement. The bacteriologic type must also be determined, whenever this is possible. Diagnosis, therefore, should be made on a bacteriologic rather than an anatomic basis, for successful serum treatment is dependent upon early and accurate bacteriologic type diagnosis.

The importance of such a bacteriologic diagnosis is so generally recognized today that "typing" centers have been established in various private and public laboratories and hospitals in many of the large cities. Such typing services, utilizing the rapid Neufeld technic, are available to physicians without charge, if necessary.

The etiologic bacteriologic type, and the presence or absence of bacteremia, have an important bearing on prognosis, on the expected occurrence of certain complications, and on the therapeutic management of the particular case. While typing and blood-culture data are essential for proper clinical management, the furtherance of epidemiologic studies and, through this, the study of effective preventative measures, would also be greatly hampered, if not made impossible, by abandonment of type diagnosis.

Serum Treatment

Specific serum therapy has made marked advances in the past year, and practically all the horse serum used in this country is refined and concentrated. However, because some of the protein is inseparable from the antibodies, allergic reactions may still occur, either immediately or after several days.

To avoid these reactions, rabbit serum was

introduced. The rabbit pneumococcus antibody molecule is one-fourth the size of the horse-serum antibody molecule, affording thereby greater effective penetration into tissues and through membranes. By concentration and refinement, a serum of very high potency (often as much as 10,000 or more units per cubic centimeter) is made available, so that the therapeutic dose can be administered in very small amounts, rendering the technic of administration much easier. Thermal and allergic reactions occur less frequently than with the best horse-serum.

When adequate amounts of serum are promptly administered, the mortality from pneumococcal pneumonia is markedly reduced, with prompt and definite improvement in the clinical state of the patient. What constitutes adequate doses varies with many factors and with individual patients: The duration of the pneumonia before serum therapy is begun; the extent of involvement; the presence or absence of bacteremia; the presence or absence of complications; the age of the patient; etc. Enough serum must be given to inactivate completely the circulating carbohydrate and sensitize all the organisms (antibodies sensitize the pneumococci so that they are either lysed or phagocytized and destroyed).

It is wasteful to give insufficient serum. Approximately 100,000 units are needed, in an adult, to effect a cure, in most cases of early and not-too-severe involvement. Some patients will require more, especially those with bacteremia; those whose infections are due to pneumococci of Types II, III, or VII; or those who have extensive involvement and are seen late in the disease. Other patients may require less. Because the maximum concentration of antibody is required immediately, the serum should be given *intravenously*, in the shortest possible time consistent with the avoidance of chills and other reactions.

It is a safe and wise procedure to precede the administration of serum by testing for possible serum sensitivity, regardless of whether horse or rabbit serum is used, by utilizing intracutaneous or ophthalmic reactions. If no sensitivity is evident, the entire calculated dose may be given, in association with dextrose-saline venoclysis or in divided doses every one to two hours, until improvement results.

At present, serums are available for most of the 32 pneumococcal types. The excellent clinical results and lowering of mortality attending the use of specific serum have been adequately demon-

strated by numerous workers in all sections of the country. Although best results are attained by the early use of serum, the reduction in the frequency of significant complications following its late administration, warrants its use, regardless of the duration of the pneumonia before treatment is instituted.

Specific serotherapy has its disadvantages. It has not proved effective against Type III pneumococcus pneumonias. It must be specific for the type or it will be ineffective; and, although unfavorable reactions frequently may be forestalled, the possibility of thermal reaction, anaphylactic shock, and serum sickness cannot be eliminated entirely. Finally, the expense may occasionally be prohibitive. Because of this latter objection, in some cities the Board of Health makes available, free of charge, serums for the more common types. Unfortunately, however, only a few cities are thus enlightened.

Sulfapyridine Treatment

Through sulfapyridine, introduced in England in 1938, chemotherapy threatens to displace the position held by serum therapy. It is less expensive, easy to administer, and dramatic in its effects. An initial dose of 2 grams is given, followed by one-gram doses, at four-hour intervals, for 48 hours after the temperature falls to normal; then continued for several days with one gram at six-hour intervals.

Results have been uniformly excellent. Of 60 patients (14 Type I; 16 Type II; 5 Type III; 10 Type VII; 3 each of Types VIII and XII; 2 of Type V; and 1 each of Types IV, IX, XVI, XVIII, XIX, XXIII and XXIV), reported by Volini, Levitt, and Campione¹, only 2 died, giving a mortality of 3.3 percent, with none of the 5 Type III patients dying. Among 15 patients with bacteremia, there were no deaths.

The nature of sulfapyridine's effectiveness is, as yet, undetermined, but it seems to inhibit the growth of susceptible organisms. It does not function as does specific antiserum in the neutralization of free carbohydrate substance and does not enhance phagocytosis. The ultimate success of this drug is probably dependent upon the patient's ability to produce an adequate antibody response to the infection.

1.—Volini, Italo F.; Levitt, Robert O.; and Campione, N. Louis: *Ill. M. J.*, 76: 420-424, November, 1939.

The use of sulfapyridine is not without danger and patients must be watched carefully. Nausea and vomiting are common occurrences and, if severe, so distress the patient that the drug must be stopped. The newer soluble, injectable sodium salt may obviate this trouble, provided the cause of the vomiting is not central in origin.

Interference with kidney function, hematuria, azotemia, and renal calculi formation have been observed. Other complications are similar to those observed with sulfanilamide therapy, but cyanosis is less common with sulfapyridine than with sulfanilamide therapy. Acute hemolytic anemia may arise within the first three days of treatment and warrants immediate discontinuance of the drug. Leukopenias have been observed and, if the white cell count is low before beginning treatment, it may be a serious complication. Agranulocytosis, however, does not occur until treatment has been maintained for from 10 to 14 days or longer. Drug fever sometimes occurs but is difficult to evaluate, and rashes, particularly of the morbilliform type, occur with the same frequency and under the same conditions as with sulfanilamide.

Despite these reactions, which may occur and should be watched for, sulfapyridine gives great promise of further reducing the mortality from pneumococcal pneumonia.

More recent experimental and clinical data suggest that sulfapyridine and specific serum exert a synergistic action, and the combined use of the two affords advantages not possessed by either one alone. This is particularly true with Type III pneumococci infections. It is, therefore, suggested that the combined therapy be used in adult Type III infections, as well as in all cases when treatment is begun after the third day; when two or more lobes are involved; when the patient is over 40; and in the presence of bacteremia or other complications, such as pregnancy. Serum therapy alone is to be preferred in patients who have had anemia, granulopenia, fever, or drug rashes from previous sulfanilamide or sulfapyridine therapy.

In the final analysis, the physician must remember that he is treating a *patient with pneumonia*, and not pneumonia alone. Therefore, good nursing and dietary care, adequate fluid intake, oxygen therapy when indicated, prolonged rest, and sedation are as important today as they were in years past, despite our newer approach to the problem with sero- and chemotherapy.

55 E. Washington St.

FREEDOM AND DISCIPLINE

No free land can live, much less prosper, unless its citizens have intelligence enough to discipline themselves and not abuse their power. It is always possible, and always has been possible, for free men to ruin their country and themselves by using their power selfishly.—ROBERT QUILLEN.



THE FULL HEART AND MIND

The full heart and the full mind are not concerned with the fear that they cannot make themselves understood. Great hearts and great minds reach the world by a kind of natural overflow and use instinctively and almost unconsciously whatever instrument is most effective for the work in hand.—Kalends of the Waverly Press.

Progress in the Diagnosis of Gastro-Intestinal Disorders

By

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IN reviewing a voluminous literature during the past year, on the progress in diagnosis of gastro-intestinal disorders, the subject has been found so extensive that only a synopsis of a few of the more widely applicable contributions is offered here. A more complete review will be published elsewhere.

Esophagus and Stomach

Procedures which are helpful in the diagnosis of lesions of the esophagus have very recently been discussed by Wright¹, who stresses the value of esophagoscopy, roentgen-ray studies, and particularly the use of olive-tipped bougies. The latter is described as a useful diagnostic procedure which has been poorly publicized, but which has been found particularly helpful in differentiating between cardiospasm and carcinoma at the cardiac end of the stomach. In the technic, the passage of the olive-tipped bougie is guided by a thread which had been swallowed the previous day. The observation which makes it so valuable in the differential diagnosis between cardiospasm and carcinoma is the rarity with which a true cardiospasm is encountered, which will not permit the free passage of a No. 60 (French size) olive tip.

A large number of articles appear each year on the early diagnosis of carcinoma of the stomach, and each year one's hopes are not much encouraged, for one only learns how important it is to make an early diagnosis, without being offered any short-cut or easy, helpful aids. However, a repetition of the need for careful and complete examinations, as well as a reminder to maintain a high index of suspicion, cannot be over-stressed.

Gastrosocopy

Gastrosocopy continues to make early diagnosis possible in conditions which formerly were difficult to recognize. A commendable paper by Renshaw² summarizes the established indications for gastrosocopy, at the present time, as follows:

I. Patients with negative gastro-intestinal roentgen-ray findings, but in whom one still suspects gastro-intestinal disease, such as: (1) Chronic abdominal distress or pain; (2) hematemesis; (3) occult blood in stools; (4) loss in weight; (5) nausea and vomiting; (6) diarrhea; (7) unexplained low-grade fever; (8) anorexia; and (9) anemia.

II. Patients with inconclusive or inconsistent roentgen-ray findings, such as: (1) "Postoperative" stomach (after resection and gastro-enterostomy); (2) bizarre or questionable filling defects; (3) questionable benign tumors; (4) questionable syphilis of the stomach; (5) question of extra- or intragastric lesions; and (6) deformed duodenal bulb, without niche or crater.

III. Gastric ulcers.

IV. Gastric carcinoma.

He also lists a group of miscellaneous conditions, such as deficiency diseases, anemia, lympho-

granulomatous diseases, allergic states, certain skin conditions, and blood dyscrasias, in which gastrosocopy has proved helpful in making a diagnosis, although it is hardly to be considered a routine procedure in these conditions.

Its value in cases of gastritis has also been stressed in many reports. In the opinion of McClure and Jankelson³, as well as of others, gastrosocopy not only allows a diagnosis of chronic gastritis to be made, but also permits its proper classification. It is of unquestionable value in differentiating gastritis from other disease entities.

Intestinal Obstruction

The need for early diagnosis in cases of intestinal obstruction is beyond debate. The great value of "scout films," in cases of suspected or known bowel obstruction or ileus, has been emphasized by Chamberlain⁴. In cases of rupture of a hollow viscus, such films may reveal the condition by visualizing abnormal gas in the peritoneal cavity. Such flat films may also demonstrate the presence of "hair-pin turns" and trapped gas in the small bowel, both of which are among the earliest signs of acute intestinal obstruction.

Flynn and Cochran⁵ observe that a single film, taken in the upright position, will usually serve to differentiate colonic from small-intestinal obstruction. In the latter, distended small-intestinal loops, with multiple fluid levels, will be evident; while in the former, because of the action of the ileocecal sphincter, the distention will usually be seen to be confined to the colon.

Carcinoma of the Colon and Rectum

In his discussion of carcinoma of the colon, Soffel⁶ concludes that there are three decisive factors in making an early diagnosis: (1) The period of time which elapses between the onset of the growth until symptoms appear; (2) the period of time from the first appearance of symptoms until the patient consults a physician; and (3) the ability of the physician to establish a diagnosis.

Yeomans⁷ also discusses the early diagnosis of carcinoma of the colon, along with carcinoma of the rectum. He points out that the error in diagnosis of colonic lesions, as proved by operation or autopsy, ranges from 20 to 40 percent. The failure of the patient to come to the physician early is again stressed and periodic health examinations are encouraged.

Garrett and Davidge⁸ point out other interesting data in this connection. They observed that from 20 to 25 percent of all patients with carcinoma of the rectum and rectosigmoid have had a previous operation for hemorrhoids, and they verify the general belief that early carcinoma of these regions does not always show in the roentgenogram. In reviewing the methods of diagnosis, they direct attention to the injection of air into the rectum and colon after the evacuation of the

barium, to show a "mucosa relief picture," which will sometimes reveal filling defects which the barium enema will not show. Since, as they point out, 95 percent of rectal carcinomas are within 4 inches of the anus, they can be palpated by the examiner's finger, but if no abnormality is encountered with the patient in the usual position, they request that he strain downward. If this yields negative results, the patient is then asked to assume a squatting position and strain down. If there is a carcinoma in the rectum, it can be felt by this last maneuver. In females, they point out that the growth can often be palpated through the vagina when it is not possible to do so otherwise. Following this digital procedure, proctoscopy is done and, in many cases, sections of tissue are obtained through the proctoscope.

Vitamin Deficiency States

The question of vitamin deficiencies in relation to gastrointestinal function has been discussed with increasing interest during the past year. 19, along with many others, have pointed out, not only how the recent studies of vitamins have added to our knowledge of their relation to the digestive tract, but also how deficiency states may arise from (1) the inadequate intake of food; (2) the loss of essential secretions or of food; (3) the lack or decreased production of essential endogenous substances; (4) from inadequate intestinal absorption; and (5) from alteration in metabolism. These are the disturbed physiologic mechanisms which Wilbur and Snell¹⁰ suggest in their classification of the various etiologic factors involved in the development of deficiency states, from the point of view of the digestive tract. As our knowledge increases, it becomes clearer that the relationship between gastro-intestinal disturbances and deficiency disease is a reciprocal one.

Tests

Test Meals: In a paper, the purpose of which is to evaluate the methods used in gastric analysis, Swalm¹¹ answers, in an admirable way, the question of why one should bother with gastric analysis when the patient can be studied with x-rays. He points out clearly that the information gained from the gastric analysis is quite different from that obtained by x-ray studies, for the former is a study of gastric *physiology*, normal and abnormal; whereas the latter is, at most, an *anatomic* diagnosis, giving information as to shape, position, contour, type, presence or absence of growth or ulcer, etc. Further, he points out that the earliest lesion or organic gastric disease may begin in the mucosa and, at this early stage, x-ray examination is of no value because, to obtain a positive diagnosis by its means, there must be a definite defect or indirect evidence in the contour of the organ. It is clear, therefore, that in the developmental state between the inception of the organic lesion and the point at which a definite defect occurs, the x-rays usually fail to aid us, but during this same period gastric analysis may give us the desired information, due to the fact that gastric physiology is disturbed and will become manifest in gastric secretory changes. For the same reason, gastric analysis is of value in observing dysfunction due to functional gastric disorders. This discussion is timely, in view of the tendency, especially among younger men, to dispense with a useful procedure. However, others

believe that, if free hydrochloric acid is present after histamine stimulation, the actual level of acidity is of little, if any diagnostic significance.

Several new test meals have been introduced. That described by Upham and Spindler¹² is thought, by them, to give a great deal more information than any other procedure as to hydrochloric acid secretion. Although this new secretagogue meal, with its more exact meat extract stimulation, deserves careful trial, it is a little more complex than would appeal to the average physician. On the other hand, it should prove very useful to the gastro-enterologist.

Welch and Comfort¹³ studied the acid test meal in normal persons and in those with duodenal ulcer. Phenol red is used, in the amounts recommended by Wilhelmj and his coworkers, and the study is, in fact, an appraisal of their method. The authors conclude, in part, that the acid test meal, which includes phenol red as an indicator of dilution, provides an excellent method of studying factors which regulate the acidity of the gastric contents, and that it also demonstrates the interplay of dilution and neutralization, on the one hand, and of acid secretion on the other. They agree that the method has certain limitations.

As a further step in their investigations, Wilhelmj and Sachs¹⁴ present the characteristics of the normal human gastric secretory curve, using Wilhelmj's improved gastric meal. They point out the errors and deficiencies of the commonly used test meals, and for these reasons substitute one consisting of a specially prepared 2-percent solution of Liebig's meat extract, containing 15 mg. of phenol per liter. Among its advantages is the fact that, by means of it, the total secretions entering the stomach can be separated into the acid and non-acid fractions.

In this connection, mention should be made of the report of Phillips and Litterer¹⁵, who studied the diagnostic value of the neutralizing function of the stomach. In this test they instil 150 cc. of dilute hydrochloric acid into the stomach. They conclude that the method is of diagnostic value in ulcer, pylorospasm, and other disorders, and of potential value in diagnosing carcinoma.

Woldman's Test: In a preliminary report, Woldman¹⁶ describes his simple test for ascertaining the presence of gastro-intestinal lesions; i.e., for determining a break in the continuity of the gastro-intestinal mucous membrane. This is accomplished by the administration of 0.1 gram of phenolphthalein in alcoholic solution, which is easily detectable, if present in the urine, by the addition of 10 percent sodium hydrate solution, from 2 or 4 hours after ingestion of the test solution. If the test is positive for free phenolphthalein, a break in the mucous membrane of the gastro-intestinal tract, caused by ulcer or carcinoma, is indicated. If the test is negative, it indicates that the mucous membrane is intact. This test, if corroborated, would have a wide field of usefulness, as, for example, in differentiating between functional and organic disease and in ruling out organic lesions of the gastro-intestinal tract in diseases which may have symptoms referable to the digestive system.

The report of Banks and Barron¹⁷ summarizes their effort to evaluate this test, although they used a modification of it. Fifty-two (52) patients with intrinsic lesions of the gastro-intestinal tract and 151 controls were examined. In one-quarter of the cases with alimentary disease there was fail-

ure to obtain a positive test, whereas one-sixth of the control cases gave false positives. Their results led them to conclude that the wide range of error for the test limits its usefulness, although they suggest how the value of the test might be enhanced. Others have reached somewhat similar conclusions.

New Contrast Medium

An improved contrast medium, composed of barium sulphate suspended in colloidal aluminum hydroxide, has been described by Woldman¹⁸ for the roentgenologic diagnosis of gastro-intestinal lesions. The preparation is described as so fluid that it enters all recesses in a homogenous manner, yet so tenacious and viscid that a small amount coats the wall of the digestive tract and yields satisfactory roentgenologic visualization of the mucosal folds. Other advantages are mentioned.

Peritoneoscopy

On the basis of a review of 100 cases, Benedict¹⁹ discusses the value of peritoneoscopy in the field of gastro-enterology. The procedure was used in cases of malignant disease of the stomach, cecum, colon, and rectum as well as in various liver disturbances and many miscellaneous conditions, such as tuberculous peritonitis, etc. The author concludes that the procedure is safe, simple, and highly reliable as a diagnostic method, and that errors in diagnosis are rare. Peritoneoscopy will confirm or refute various doubtful clinical diagnoses and, by means of a biopsy when possible, positive diagnoses have been made. In certain cases peritoneoscopy will obviate exploratory laparotomy.

Bibliography

- 1.—Wright, H. E.: A Discussion of the Procedures Which Are Helpful in Diagnosing Lesions of the Esophagus. *Am. J. Digest. Dis.*, 6:519 (Oct.), 1939.
- 2.—Renshaw, R. J. F.: Gastroscopy: Its Value and Indications. *Cleveland Clin. Quart.*, 6:4-11 (Jan.), 1939.
- 3.—McClure, C. W., and Jankelson, I. R.: Gastroscopic Observations on Chronic Gastritis. *J. Maine M. A.*, 30: 24-27 (Feb.), 1939.

- 4.—Chamberlain, W. E.: Roentgenologic Aids in the Diagnosis and Management of Intestinal Obstruction. *S. Clin. No. Am.*, 18:1621-1632. (Dec.), 1938.
- 5.—Flynn, C. W., and Cochran, H. W.: Intestinal Obstruction. A Brief Review of the Present Status of the Problem. *Internat. Clin.*, 1:203-219 (Mar.), 1938.
- 6.—Soffel, J. A.: Early Diagnosis of Carcinoma of the Colon. *Pennsylvania M. J.*, 42:531-533 (Feb.), 1939.
- 7.—Yeomans, F. C.: Carcinoma of Rectum and Colon. Early Diagnosis and Treatment. *New York State J. Med.*, 39:439-466 (Mar. 1), 1939.
- 8.—Garrett, B. C., and Davidge, L. L.: The Symptoms, Diagnosis, and Treatment of Carcinoma of the Rectum and Sigmoid Colon. *New Orleans M. and S. J.*, 91:177-187 (Oct.), 1938.
- 9.—Friedenwald, J., and Morrison, S.: The Gastro-intestinal Aspects of Deficiency Disease. *West Va. M. J.*, 35:267-273 (June), 1939.
- 10.—Wilbur, D. L., and Snell, A. M.: Deficiency States Associated with Gastro-intestinal Disorders. *Am. J. Digest. Dis.*, 4:720, 1938.
- 11.—Swalm, W. A.: An Evaluation of Methods of Gastric Analysis. *Am. J. Clin. Path., Tech. Suppl.*, 2:227-231 (Nov.), 1938.
- 12.—Upham, R., and Spindler, F.: Studies on Humans with a New Secretagogue Meal. *Am. J. Digest. Dis.*, 5: 721-725 (Jan.), 1939.
- 13.—Welch, C. S., and Comfort, M. W.: The Value of the Acid Test Meal: A Study of Normal Persons and of Persons with Duodenal Ulcer. *J. Clin. Invest.*, 17:599-607 (Sept.), 1938.
- 14.—Wilhelmj, C. M., and Sachs, A.: The Characteristics of the Normal Human Gastric Secretory Curve, Using an Improved Gastric Test Meal. *Am. J. Digest. Dis.*, 6:529 (Oct.), 1939.
- 15.—Phillips, K., and Litterer, A. B.: The Diagnostic Value of the Neutralizing Function of the Stomach. *J. Florida M. A.*, 24:537 (Apr.), 1938.
- 16.—Woldman, E. E.: A Simple Test for Determining the Presence of Gastro-intestinal Lesions. *Am. J. Digest. Dis.*, 5:221, 1938.
- 17.—Banks, B. M., and Barron, L. E.: The Phenolphthalein Test in the Diagnosis of Gastro-intestinal Disease. *New England J. Med.*, 221:296-299 (Aug. 24), 1939.
- 18.—Woldman, E. E.: Barium Sulphate Suspension in Colloidal Aluminum Hydroxide. An Improved Contrast Medium for the Roentgenographic Diagnosis of Gastro-intestinal Lesions. *Am. J. Roentgenol.*, 40:705-707 (Nov.), 1939.
- 19.—Benedict, B. B.: The Value of Peritoneoscopy in Gastro-Enterology. A Review of 100 Cases. *Am. J. Digest. Dis.*, 6:512 (Oct.), 1939.

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Nonoperative Orthopedic Technics

IV. The Lower Back*

By

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INJECTIONS that merely relieve low back pain temporarily are diagnostic of deeper pathoses that must be corrected before complete relief is obtained. Skin lesions, ventral hernias, lithiasis, organic lesions of the viscera, systemic diseases, meningeal and cord troubles, bone diseases, and joint involvements, should be treated when found. A panacea for the treatment of "low back pain" will never be produced, but palliative measures

should be in more general use and, in many cases, are curative.

Relief from pain is assured if injections are made properly and completely, even though some basic factor must be treated to secure a permanent and satisfactory end result.

Multiple injections into a contracted muscle should be made from $\frac{1}{2}$ to $1\frac{1}{4}$ inches beneath the skin, through one skin puncture, if possible, using a $1\frac{1}{2}$ -inch, 25-gage needle, and all contracted muscles should be treated at each visit. In sacro-

*This is the fourth of a series of eight articles.

Notes from the International Medical Assembly

Part I*

Reported by

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IT seems rather strange that neither of the two largest cities in the United States has an adequate and satisfactory auditorium to accommodate the International Assembly of the Interstate Postgraduate Medical Association of North America or the annual meeting of the American Medical Association. The former was held at the Palmer House, in Chicago, at the end of October and the beginning of November, 1939, and was seriously cramped for space in all ways, with about 4,500 registrations. The latter is scheduled to take place in a hotel in New York City this year, and will probably be even worse crowded, or scattered all over the neighborhood.

But in spite of the limited space, which cut down the number of exhibitors, scientific and commercial, and inconvenienced those who wished to hear popular lecturers, especially in the evenings, the recent session of the great postgraduate school was a good one, and almost everybody seemed happy and enthusiastic.

The 1940 Assembly will be held at Cleveland, Ohio, in mid-October. Wise ones will begin making plans for it now.

The Exhibits

The scientific exhibits at these meetings grow steadily better (there were 73 of them this time), but so far they do not compare with those at the A. M. A. meetings. The biggest and most elaborate ones were those of the Crile Clinic and the Mayo Clinic, as usual. Many of them were decidedly interesting and instructive, and they were attentively studied by the physicians in attendance, but I saw nothing especially new or startling. Perhaps that was partly because, being in my home town, I could not attend so faithfully as I do when I am away, and partly for the reason that, in the narrow quarters, the space around them was so crowded that careful study was difficult.

The commercial exhibitors, who numbered 122, were also packed in closely and somewhat scattered but everybody seemed to take the shoving and jostling goodnaturedly, and most of the exhibitors seem pleased with the interest shown—though that is to be expected with this group of really serious and studious medical men, who came to these meetings, not merely as an excuse for a vacation, but to learn all they can, from every possible source.

Several products were shown which were so new that they had not been shown before at a national meeting. I shall mention a few of these which seemed to me to possess the widest interest, especially for general clinicians.

*This is the first installment of a two-part article. The second installment will appear in an early issue.

In spite of the increasing use of the amino acid, glycine (or glycocoll), especially in the form of gelatin, which contains a high percentage of it, it seems rather strange that no one appears to have thought (at least on a commercial basis) about the possible therapeutic value of other amino acids, until the Arlington Chemical Company developed, on a thoroughly scientific foundation, their new product, *Aminoids*, which contains a combination of a number of these physiologically indispensable substances in a readily assimilable and acceptably palatable preparation. Pleasing results with this product have been reported in cases of anorexia, malnutrition, and fatigue states having a chemico-physiologic basis.

Another dietary adjunct which appears to have considerable possibilities of helpfulness in the solution of feeding problems is known as *Dietene*, and contains 45 percent of carbohydrate (other than fiber) and 37 percent of readily assimilable protein, along with a properly balanced supply of calcium and phosphorus and therapeutically active quantities of vitamins A, B, C, D, and G. When mixed with milk, its palatability makes it acceptable to those with finicky appetites (such as post-surgical convalescents); and its very low content of crude fiber (only $\frac{1}{2}$ of one percent) suggests its value in the treatment of peptic ulcer.

The maggot treatment of osteomyelitis and similar chronic suppurations and indolent wounds is, of course, not new, and its value has been abundantly proved; but live maggots are not easy to handle and are highly distasteful to many sensitive patients. Now the water-soluble and filterable substances extracted from minced maggots, combined with anesthetic and antiseptic chemicals, have been made available, by the Maggot Products Company, in liquid and jelly forms, under the name, *Prolarmon*, and encouraging results are reported from the use of this preparation.

Bacterial vaccines have a secure place in therapeutics, and so have the non-specific foreign proteins. The U.S. Standard Products Company has combined the two by adding casein to several polyvalent vaccines, and offers them as *Lacto-Antigens*. Reports indicate definite improvement in results from their synergistic action.

Few physicians, except those working with the police or in large hospitals or hotels, see more than one or two cases of poisoning in a year, and for that reason are rarely prepared to handle such cases promptly and with confidence. The *Emergency Antidote Kit* (Jacobson) makes it possible to deal with 140 of the commoner poisons without unnecessary loss of time.

Here follow abstracts of a number of the lectures and clinics given at this meeting.

MEDICAL TREATMENT OF LIVER DISEASE*

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Prof. of Med., Minn. Grad. Sch. of Med.

Whatever the cause (about 50 percent of the cases are caused by alcohol, chiefly when it is taken on an empty stomach), the lesions in chronic hypertrophy of the liver are the same. The questions which arise in these cases are: (1) Can the lesions be repaired? (2) Is the liver capable of resuming normal function? (3) What treatment will best aid this restoration?

Only a small portion of normal, functioning liver tissue is necessary to maintain life. This organ will *regenerate*, after resection, to nearly its normal size; but ligation of the common bile duct, damage by poisons, or injury of the portal circulation will prevent or stop this regeneration.

The liver can be definitely damaged by an improper diet. This organ is the commissary of the body, and one of its chief functions is the maintenance of the carbohydrate metabolism. It also serves as a *depot* for the storage of all vitamins, especially the fat-soluble ones, A, D, E, and K, so that a diseased liver can cause various *avitaminoses*.

Patients with biliary obstruction need a high-carbohydrate diet (about 500 Gm. of carbohydrates, 110 Gm. of protein, and 50 Gm. of fats, daily). Portions of the vitamin B complex are also needed, and must be *absorbed* in order to be of value.

The three conditions with which we must deal in cases of liver disease are: (1) Hepatic insufficiency; (2) edema; and (3) bleeding.

In **hepatic insufficiency**, the first step is to dilute the blood and free it of toxins. This is best accomplished (along with restoration of any carbohydrate deficiency) by giving 2,000 cc. of 10-percent dextrose solution, intravenously, each day, over a long period of time. If *acidosis* is present, suitable quantities of sodium lactate or bicarbonate may be added to the infusions. If *anoxemia* develops, with cyanosis and hyperpnea, oxygen and transfusions should be employed.

These patients should be given adequate quantities of all the essential vitamins. Haliver oil will furnish vitamins A and D; orange juice the vitamin C; and 6 or 8 brewer's yeast tablets, three times a day, the vitamin B complex (additional vitamin B₁—thiamin chloride—may be needed). Liver extract is also helpful, and riboflavin may be given, if and as required.

In cases of **hepatic edema**, we must reduce the venous pressure and increase the osmotic pressure. This may be done by transfusions, by vitamin B₁, possibly by the amino-acid mixture known as Aminooids, or perhaps by a combination of these measures. If mercurial diuretics are used, they should be given *carefully*, and if they do not produce adequate results *soon*, they should be discontinued on once.

Hemorrhages in these cases (especially from ruptured esophageal varices) are due to deficiency of prothrombin, are dangerous, and frequently require surgical treatment. Vitamin K (prepared from

alfalfa) is helpful in some cases; and the relatively new drug, phthiocol (2-methyl-3-hydroxy-1, 4-naphthoquinone) may be tried.

ALLERGY IN GENERAL MEDICINE

By J. Harvey Black, M.D., F.A.C.P., Dallas, Tex.
Prof. of Clin. Med., Baylor Univ. Sch. of Med.

All is not "asthma" that wheezes. Dyspnea due to heart disease, to foreign bodies in the respiratory passages or to enlarged glands pressing upon them, and even the sighing respiration frequently encountered in neurotic patients, have been diagnosed as "asthma" and made the basis for exhaustive allergy studies.

Many cases are positively and negatively diagnosed as allergic, on wholly insufficient grounds.

Allergic patients are *people*, and must be studied as such. A woman had asthma whenever her husband was around, but was entirely free from attacks when he was away. Investigation disclosed the facts that he was a dealer in chickens, and that she was allergic to hen feathers.

The cause of differences in the location and character of the symptoms is in the *patient*, not in the allergen. Gastro-intestinal symptoms are common in allergy, and many such cases are diagnosed and treated as appendicitis, gallstone colic, and the like.

Headache is sometimes allergic in origin, but this fact is hard to discover, as there are no positive criteria to guide us. In long-continued and intractable cases of headache, it may be well to try an allergic study, *without making the patient any promises*, as we cannot be sure. Various other conditions may be present.

A "complete allergy study" means far more than a mere series of skin tests. Many other means for obtaining information must be employed.

If it appears that a patient is sensitive to some food, test for reactions to the *common*, every-day foods *first*, and to those rarely eaten last. Patients frequently react to the foods they like best and eat most often.

A patient may suddenly *become* allergic, without apparent reason, to a food or other substance which has been used for years without any trouble. A woman who had been using orris root toilet powder all her life became allergic to it at the age of 63 years; and a farmer, 74 years old, suddenly became sensitive to ragweed.

Since allergic reactions may be found anywhere, at any time, and occur in medical practices of all types, they are worthy of serious study.

HORMONES IN OBSTETRICS

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A woman could no more go through a pregnancy without her thyroid and pituitary, than she could without her uterus and ovaries.

Some women who show a low basal metabolic rate (B.M.R.) are sterile; when this rate is raised by judicious thyroid medication, they conceive; when it falls, they are again sterile. Some women who have aborted repeatedly can carry a child to term with proper thyroid treatment.

Occasionally symptoms of hyperthyroidism appear during pregnancy, with *hyperemesis*. If these women are given Lugol's solution, the symptoms are relieved. After the child is born, the

*The complete text of this, and all the other papers and clinics presented at this Assembly, will shortly be available in the volume, "Proceedings, 1939," which will be mailed, as soon as it is off the press, to all who send \$7.00 to Dr. W. B. Peck, Freeport, Ill.

symptoms disappear entirely, without further treatment.

Epinephrin will frequently relax the uterus in cases of *Bandl's ring*.

The alleged dangers of *Pituitrin* are due to four errors in its administration: It is given (1) in unphysiologic doses; (2) at the wrong time in the labor; (3) where normal delivery is impossible; or (4) where the fetus is in danger. *Pituitrin* should *never* be given until after the child is delivered, and then it should be given *routinely*. After the placenta is born, give ergot.

It has been stated that *Prolan A* stimulates the graafian follicle, while *Prolan B* stimulates the corpus luteum; but these statements have not been fully proved.

The ovaries elaborate estrin and progesterin. In order to favor conception, give estrin during the first two weeks of the menstrual cycle, and progesterin during the last two weeks.

In habitual abortion, placenta previa, and abruptio placentae, the cause of hemorrhage is thinning of the lower uterine segment, resulting from uterine contractions. *Lutein* will stop the contractions and thus stop the hemorrhage. If given at the proper time, in proper doses, it can also stop premature rupture of the membranes, or premature labor without rupture. If or when the membranes rupture, under this treatment, or if infection appears to be developing, stop giving the *Lutein* and let the labor proceed.

(To be continued)

Progress in Male Hormone Therapy

Testosterone Propionate

Part I*

By

R. L. GORRELL, M.D., D.N.B., Clarion, Iowa

A COMBINATION of high-pressure selling, short-sighted clinical observations, and extravagant claims by certain pharmaceutical houses has influenced many conservative physicians against a truly valuable therapeutic agent.

Every available article on male sex hormone therapy and related fields has been studied, and the results correlated with my own clinical observations, which comprise a small group of private patients.

I will not dazzle you with structural formulas copied from a chart, nor with a long dissertation on the many failures in the field of male hormone therapy. Koch and C. R. Moore have given us well-rounded reviews of the biochemistry of the hormone.

A brief glance over the articles reveals that testosterone has been used clinically in the treatment of fifteen disorders: Male breast hypertrophy¹; peripheral vessel disease²; oligospermia³; dysmenorrhea⁴, 25; impotence⁵; prostatic hypertrophy 6, 10, 15, 17, 19, 21; inhibition of lactation⁷; functional uterine bleeding⁸, 9, 25; eunuchoidism¹¹ and hypogonadism¹⁴, 16, 20, 23, 30; male climacteric 12, 17, 18, 22; hyperthyroidism¹³; atrophic rhinitis 22; acromegaly²⁴; and uterine fibroids²⁵.

Prostatic Hypertrophy

The earliest and most common use of testosterone propionate has been in the treatment of benign hypertrophy of the prostate or "prostatism."

Enthusiastic writers have ventured to state that this hormone will supplant prostatic surgery in many cases. That it definitely increases the abil-

ity of the prostatic patient to empty his bladder, unless marked obstruction of a fibrous nature is present, is agreed on by all. The older man feels more alert and energetic, all his muscles are stronger, and the "increased tone of the accelerator urinae muscle enables the older man to more nearly empty the bulbous urethra of the last few drops of urine, which otherwise dribbled and stained the underwear. This increase in muscle tone is important to bear in mind, for the clinical improvement noted by Lower, Van Capellen, Zuckerman and Greene, and Laqueur, may be due to improved tone of the trigonis muscle, whose function it is to depress the posterior lip of the vesical orifice and thereby open it so that the detrusor muscle can expel urine."¹⁵

A few reports have given presumptive evidence of decrease in the size of the prostate, but most authors, and I, personally, feel that there is no change in size. Here is an illustrative case:

Case 1: A farmer, 67 years of age, had noted frequency (12 times a day), nocturia (5 times), and slowness in starting the stream. The prostate was enlarged three plus, but was not tender. Repeated urinalyses were negative. There was no residual urine.

For one year and two months, he came in regularly for injections of Perandren (testosterone propionate, Ciba), in increasing doses and at increasing intervals (1 mg. three times weekly at first; then 5 mg. twice weekly; 10 mg. twice weekly; and finally 25 mg. once weekly). He felt better generally and noted a decrease of nocturia to 2 times, and even occasionally none. Repeated rectal examinations disclosed the same firm, large prostate.

*This is the first installment of a three-part article. Succeeding installments will appear in early issues. The complete bibliography will follow the last installment.

Of more clinical interest, he was still subject to the "prostatic syndrome." Sudden chilling, overeating, and retaining of urine for a long period (as during a ride or party) resulted in an increase in the bladder symptoms. Although the bladder emptied freely, he was never able to pass a large stream until Thompson, of the Mayo Clinic, performed a transurethral resection. Since that time he has felt well, although nocturia (twice) is still present.

Riches¹⁰ writes, "The natural history of prostatic obstruction is one of frequent remissions and relapses, and many vaunted remedies in the past have owed their ephemeral reputations to their use at a time when acute congestive retention has just been relieved by catheterization. *Delay in surgical intervention is one of the most potent causes of death in prostatic obstruction.*"

We do not know what the prostatic outcome would be if a series of older men received testosterone propionate as a prophylactic measure. Bolend²¹ has carried out one of the few really scientific studies in this contested field. Biopsies were taken of the prostate before and after testosterone propionate injections (10 mg. three times weekly, until from 150 to 200 mg. have been given). Histologic examination shows that there occurs an exaggeration of glandular hyperplasia, reduction in inflammatory reaction, and reduction, or at least no increase, in the stroma. If such treatment could be carried out before fibrous tissue has formed, all prostatic surgery might be avoided.

Symptomatic relief: Many authors have noted that their patients feel better or "cured," yet they still carry a residual urine of several ounces.^{6, 17, 19} The sthenic state following injections of male hormone is responsible for the general feeling of wellbeing. The reappearance of libido, desire, and potency cheers them.

Oberholtzer¹⁹ believes that doses of 20 mg., given every four days, will give some relief, even in cancer of the prostate, and that medication must be continued until the patient is permanently cured. Day¹⁷ states that no benefit will be obtained if cancer is present, unless there is associated hypertrophy. Meltzer⁶ gave a series of 30 injections of Perandren, 25 mg., in conjunction with Androstine A (water-soluble testicular hormone) and Androstine B (fat-soluble testicular hormone). Unfortunately, Meltzer's record of 45 percent improvement is rendered less impressive because much other treatment was given simultaneously (bladder lavages, instillations of germicidal and anesthetic substances, prostatic massage, and the use of sulfanilamide and mandelic acid).

Day¹⁷ records a number of prostatic patients who were relieved of hesitancy, nocturia, and inability to void a free stream, although in no case was there a reduction in the size of the prostate.

Hamilton and Wolfe²⁷ have shown that there is a considerable hypertrophy of skeletal and cardiac muscle following the intensive use of testosterone, and frequently an increase of from 10 to 20 pounds in body weight. They believe that any benefits seen are due to muscle hypertrophy.

Riches¹⁰ quotes Rusch and Kundert as stating that there are at least two histological types of enlargement of the prostate in the dog, of which one, both in dog and man, may be caused by excess of male hormone. This is as confusing as the original reason for using male sex hormone therapy—that in experimental animals, the administration

of estrogenic substances will cause prostatic hypertrophy and androgenic substances will cause regression. The clinician will do well to think in critical terms of laboratory investigations, instead of attempting to apply their results directly to man.

Walther and Willoughby³⁴ feel that testosterone and androstine produce only temporary relief of symptoms. "It appears that symptoms tend to recur after treatment is stopped, and it is necessary to continue a maintenance dose, more or less as is done with insulin." Strohm³⁵ summarizes his results thus: "Poor results may be expected in hypertrophies of fairly long duration, partial results in hypertrophy of moderate severity, and fair results in early prostatic hypertrophy. Increased ease in starting the urinary stream is the first symptom of improvement." Foss³⁷ believes that 40 mg. of testosterone should be given every two weeks for a year or more.

Summary: All observers are agreed that testosterone propionate will give marked relief of urinary symptoms to the prostatic patient; that it is of little avail in fibrous bladder-neck obstructions; and that it will afford marked improvement in general wellbeing.

Even if surgery becomes necessary, the patient has not lost time, but rather has improved his health. No conscientious physician will let a patient suffer renal damage merely to insure a few more office calls.

Eunuchoidism and Hypogonadism

In connection with hypogonadism, the results and opinions are as clearly in favor of testosterone propionate therapy, as they are contradictory in the case of prostatism.

Definite growth of the penis, marked stimulation of the sexual drive, hair growth and other secondary characteristics, enlargement of the prostate and vesicles, increase in body weight, increased number and strength of erections, a slight increase in the basal metabolic rate, increase in size of larynx and deepening of the voice, increase in prostatic ejaculate, marked restoration of bodily vigor, all these have been observed by a number of physicians.

Day¹⁷ feels that testosterone is of value in treating asthenia, depressed energy states, nervous exhaustion, senile debility, and women with unusually severe menopausal symptoms, and does not regard arteriosclerosis, hypertension, coronary disease, myocarditis, or nephritis as contraindications.

The eunuchoid patient and the hypogonad patient suffer from shame at displaying their undeveloped genitals and their feminine configurations, and at the thought of their lack of masculine desire and function. These types of patients are revolutionized by persistent therapy with testosterone. This is especially true in the non-intellectual type, who cannot sublimate his mental powers. I saw such a man the day after unilateral castration. Although that was ten years ago, I can still remember clearly how embarrassed and ashamed he was, how reluctant even to have the wound dressed, and how gloomy and despondent he appeared. A few days later, he committed suicide.

Rubinstein¹⁶ records the case of a genitally hypoplastic adult who had been little benefited by treatment with anterior-pituitary-like substance. Five (5) mg. doses of testosterone propionate

were given three times a week for four months. Marked enlargement of the penis, desire, and enjoyable intercourse followed. Live spermatozoa were ejaculated.

Kenyon and Koch³⁶ emphasize the development of the prostate and progression of secondary sex characteristics in the eunuch, together with nitrogen and sodium retention, while under testosterone therapy. In all their patients, there was an early increase in the frequency of erections and marked increase in the size of the prostate. Breast stimulation was evident, as "nubbins of breast tissue appeared in several patients, and in two, opalescent fluid could be expressed from the nipples." Testosterone was given, in 25 mg. doses, from 5 to 7 times weekly, for from 28 to 95 days. Despite the fact that massive doses resulted in breast enlargement, a further survey of the literature reveals an attempt to treat male breast hypertrophy with the same agent!

A number of authors report that large doses of testosterone may cause acne. Following the same line of reasoning, one writer reports that he is using testosterone in the treatment of acne.

McCullagh¹⁴ notes that, despite the apparent normalization of the pubertal hypogonadal patient with testosterone therapy, no change is noted in epiphyseal closure.

Thompson²⁰ summarizes the present-day views thus: "The male sex hormone, dissolved in vegetable oil, is slowly absorbed into the blood stream from the site of injection, and thus a maximum effect is exerted over a prolonged period of time. The greatest success with testosterone has been obtained in eunuchoid patients who have either failed to maintain normal sexual development or who have been castrated by accident or surgical necessity. The optimum dose for an eunuchoid adult is approximately from 50 to 75 mg. weekly, divided into two or three doses.

"The maintenance dose may be lower, but certain patients develop a tolerance, necessitating an increase in the dose. The patients are instructed how to inject the hormone themselves, and they adjust their dose to their needs. Beneficial effects are noted within from 2 to 10 days after starting the injections: (1) The skin and mucous membrane of the penis become thickened; (2) the pigmentation of the skin of the genitalia is increased (one observer reports a sudden tanning of body areas which had been exposed to sunlight prior to hormone therapy); (3) erections and prostatic secretion occur; (4) there is an increase of interest in women, increased ambition and self-confidence, and greater physical vigor, with a decrease or cessation of headaches, lassitude, and other neurasthenic complaints."

Kearns¹¹ feels that the most sensitive indicator of testicular function is the size of the prostate and

vesicles. Atrophy of the prostate occurs after castration and after cessation of testosterone treatment in eunuchs. Increased strength, endurance, libido, erections, ejaculations, and ability to copulate have followed doses as small as 10 mg. twice weekly. The ointment is just as effective in increasing androgenic activity in the urine and results in more constant absorption. "Because of possible later atrophy of the testicles, long periods of treatment of adolescent boys and young men must be avoided, unless clinical evidence of hypogonadism and low urinary output of androgens has been demonstrated. The possibility of overstimulation and glandular imbalance must be kept in mind."

"The majority of cases of suspected hypogonadism in adolescent boys are, in reality, only cases of delayed puberty, which will eventually result in spontaneous improvement. The cases of true hypogonadism, which will persist into adulthood, are rarely detected before the age of 13 years," warns Webster.³⁰ "The great majority are associated with thyroid hypofunction, and the use of Perandren results in striking anatomic changes, including growth of the penis, scrotum, and prostate."

Kundstadter²³ calls attention to the facts that not all individuals respond similarly to a hormone, and that the amount of hormone that causes excessive stimulation in one may have little or no effect upon another. A boy of 11½ years received 21 injections of 5 mg. of testosterone, with a result that the penis became greatly hypertrophied, erections were frequent, and seminal emissions occurred once or twice weekly. He grew 2¾ inches and gained 15 pounds in 9 months. "The ability of androgenic substance to produce premature puberty labels it a dangerous drug, in so far as its administration to children is concerned. Moore warns that the administration of testis hormone may ultimately be injurious to the gonads, possibly by a suppressive action upon the hypophysis."

Excessive doses result in priapism, increased body weight, generalized edema (due to retention of water, salt, and nitrogen), acne of face, and precordial pain.²⁰ "This drug is now being sold in many drugstores, where it may be purchased without a prescription by anyone. At present, the cost of the material (seven to ten dollars weekly), and the lack of public knowledge of its action, temporarily serve to prevent its unsuitable exploitation."

Summary: Testosterone propionate is the most valuable therapeutic agent we have today in the treatment of the eunuch or poorly developed (hypogonad) individual. Given in moderate doses, under careful observation, it rehabilitates, both mentally and physically, a group, that otherwise would be doomed to unhappiness.

(To be continued)

FREE MEDICINE (?)

"Free Medicine for All" is the caption of an article in one of the popular magazines. On seeing this, we were reminded of the man who went into a tavern optimistically, and left it misty optically. The writer of that article, in his enthusiasm for his subject, forgot that medical care, under any system, must be paid for by somebody. This mistiness, we have noticed, is quite characteristic of many social reformers.—New York State Journ. of Med., March 15, 1939.

Physical and Office Therapy and Radiology



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Progress in Radiology

Diagnosis

IN 1895, when Roentgen first discovered the x-rays, it took a full week to cross the United States from east to west. Last autumn, a physician living in Cook County, Ill., took a six o'clock dinner with his son in Portland, Maine, and the next evening (twenty-three hours later, to be exact), he took dinner with another of his sons in Portland, Oregon.

This illustration of the rapid progress in transportation in 45 years, is paralleled by the immense amount of progress in the development of the machinery to produce x-rays and of their practical application to the diagnosis and treatment of human conditions. In 1896, we were highly elated when we could produce x-ray negatives that would give us fairly accurate shadows of the bones in the human extremities. Today, by various special procedures and refined technic, the roentgenologist is able to make accurate studies, not only of every portion of the bony skeleton, but also of the musculature and other soft-tissue structures of the body. The normal outlines and densities of the human female mammary gland are accurately delineated upon the x-ray negative, and abnormal densities, due to various mammary lesions, are clearly and accurately shown.

Not only the position, size, and form of the kidneys and entire urinary tract, but also the liver, gallbladder, the various portions of the alimentary system, the nasal accessory sinuses, the mastoids, and the more important structures within or passing through the petrous portions of the temporal bones, can be accurately delineated on the x-ray film. Moreover, the *functional activities* of these various organs, especially of the portal, urinary, and digestive systems, can be accurately studied. In addition, a number of the other glandular organs of the body can be well delineated upon

roentgenograms, and both the intrinsic lesions and functional activities of the respiratory tract, and the size, form, and functional activities of the heart, can be best studied by means of the x-rays.

If space would permit, much more could be said about the accurate application of x-rays in diagnostic studies, but we do wish to emphasize the fact that good roentgenograms, carefully made from time to time on various organs, in standard positions and by standardized technic, afford the most accurate known means of determining the changes that take place in various organs and tissues of the body as the result of either pathologic lesions or results of nature's repair efforts following traumatism or disease.

Therapeutics

It was early discovered that the x-rays have a profound effect upon most living cells, and that the normal cells of the various organs of the body vary greatly in their susceptibility to the influence of x-rays and of the various emanations from radium and other radio-active substances. It was also further discovered that the abnormal, or neoplastic, cells vary from the normal cells in their susceptibility to the x-rays and radium rays. Because of these facts, not only physicians, but certain other workers soon began to investigate the possibilities of treating disease by means of the x-rays.

Many of these early treatments led to disastrous results, giving new proof of the old and well established truth that only properly trained physicians, who have had complete and thorough courses in the basic sciences, as well as in human anatomy, physiology, and pathology, are competent to carry out properly procedures to heal the sick. In other words, the discoveries of the enthusiastic scientists in chemistry, physics, biology, etc., should be used only by the properly trained and experienced Doc-

tors of Medicine, who always must use great care and conservatism in applying any and all newly discovered or developed substances or agencies in treating human beings.

The progress in irradiation therapy has been equally as great and beneficial to the human race as has the progress in diagnostic procedures. X-Ray treatment and treatment by the use of radium have been as rapidly developed, perfected and extended in the care of human patients. Because of the highly complicated physical problems involved and the meticulous care as to many details of technic, only those physicians who are diplomates of The American Board of Radiology should attempt to carry out x-ray and radium therapeutic procedures on human beings.

From the early attempts to treat patients by exposing poorly defined areas or "fields" to the x-rays emanating from gas tubes of greatly varying output and constantly varying voltage, and from the equally varying effects of quantities of radium, held by all sorts of containers and placed at indifferent positions and distances, we have now come to the stage of progress where each dose of x-rays and each dose of radium is as carefully measured and administered as are the doses of serums and medicines given to patients by mouth and by other well-established forms of administration.

The biologic effects of both the x-ray and radium exposures vary, not only with the *quantity* or length of the exposures, but also with the *quality* of the radiation energies thus delivered. For these reasons, the radiologist first determines, by his special training and experience, what quality (measured in Angstrom units as to the exact wavelength of the rays delivered) is to be used. By means of both the nature and wall-thickness of his radium containers and, where necessary, by surrounding his radium with other substances, as further "screens" or "filters," the precise wavelength (quality) of the radiant energy delivered is determined and governed. The size of the radium dose (quantity) is then exactly determined by the product of the number of milligrams of radium used times the number of hours it is applied, modified by the square of the distance between the radium and the actual area to be affected by it. It will thus be seen that the old statement of so many "milligram-hours" of treatment is now entirely inadequate to describe a radium treatment properly.

After deciding upon the wavelength (quality) of the x-rays to be used in any given treatment,

the radiologist obtains the desired wavelength by first adjusting his machine to deliver the proper voltage to his tube so as to produce the maximum amount of x-rays of that wavelength. He next sets his controls so as to deliver as much of that wavelength to his tube as the tube will stand, or as much as he desires to give to the patient per minute. Finally, he places such filter or filters in proper position between the tube and the patient as will absorb, or hold back, the wavelengths of x-rays which he does not wish to deliver to the patient. And, last, he further refines his dose of x-rays, both as to quantity and quality, by a careful adjustment of the exact distance between the target of the x-ray tube and the skin of the patient covering the port of entrance of the dose of the rays.

The now-universally-recognized unit of x-ray dosage is the "r"—one "r" being, "That quantity of x-rays which, when secondary electrons are fully utilized and the wall effect of the chamber avoided, produces in one cubic centimeter of atmospheric air, at zero degrees centigrade and 760 millimeters pressure, such a degree of conductivity that one electrostatic unit of charge is measured at saturation."

It is readily seen, therefore, that the old expression of a stated number of "milliampere-minutes" of x-ray dosage is now entirely inadequate. The present-day technic requires the dosage of x-rays to be stated in "r", specifying the wavelength, stated in Angstrom units, or fractions thereof, that was used.

By these refined points of precision, great strides have been made in the successful use of both the x-rays and radium in the treatment of many disease conditions. Many conditions are now treated by irradiation therapy as the principal, sometimes the sole factor of treatment, though many other abnormal conditions from which our patients suffer can be best treated by a combination of irradiation therapy and either medical or surgical treatment. In some cases, especially the neoplastic diseases, medicine, dietary, surgical, and irradiation treatments, produce the best end-results for our patients, and the greatly increased clearing up malignant or cancerous conditions in our patients today is due largely to the rapid perfection that has been made in our methods of using x-rays and radium in the treatment of these conditions.

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REASON AND PERSONAL DIGNITY

The brain alone is the enemy of prejudice and precedent, which alone are the enemies of progress. And the habit of originally examining phenomena is perhaps the greatest factor that goes to the making of personal dignity; for it fosters reliance on one's self and courage to accept the consequences of the act of reasoning. Reason is the basis of personal dignity.—ARNOLD BENNETT, in "The Human Machine."

★ Notes and Abstracts ★

Physical Therapy in Ununited Fractures*

THE first and most important fact about the non-union of fractures is the length of time necessary for healing. The clavicle becomes firmly united in 3 weeks, while the shaft of the tibia takes from 8 to 12 weeks, and the neck of the femur from 3 to 6 months.

There are two groups of fractures that do not unite: (1) Delayed union, and (2) non-union. Where the roentgenograms show that the surfaces of the bony fragments on each side of the fracture are dense or sclerosed (have formed a false joint), no union can take place unless the bone ends are freshened by removal of the sclerosed bone and insertion of a bone graft. *Where no sclerosis is shown, no operative efforts are necessary.*

Union takes place most rapidly if the splinted limb can be made to function to the maximum extent allowed by the splint. Lack of "functional exercise" causes osteoporosis—the absorption of bone in small areas—leaving it more or less like a piece of sponge rubber. Obviously, if this absorption is taking place in the whole bone, union of the fracture will be retarded or even prevented. *A few weeks of concentrated walking or exercises rapidly restores the bone to normality, as shown by the clear, even texture of the roentgen-ray image.*

Gynecologic and fracture patients are especially liable to pulmonary embolus. Since a physical therapist has put a series of such patients through a series of exercises for the arms, legs, and chest, there have been no such cases in this hospital.

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Ultraviolet Rays in Skin Diseases

ULTRAVIOLET irradiation, in doses short of those required to produce erythema, is administered, and the treatment is given daily, except Saturday and Sunday.

Scrofuloderma responds well to ultraviolet treatment, especially with the Finsen-Lomholt light. The discharge becomes more profuse for a time, but then diminishes and eventually ceases. The associated glands, which are the most usual cause of scrofuloderma, decrease in size and disappear.

Alopecia areata: Ultraviolet radiation is a valuable remedy in this condition, but not a specific method of therapy. The doses must be sufficiently great to produce a brisk reaction on the scalp. The redness is allowed to pass off before another dose is given. In complete baldness, it is useful to treat the head in sections, at intervals of two or three days.

Furunculosis: General irradiation, together with additional local irradiation, is indicated. This

treatment is of most use in the chronic form, where the boils appear, either singly or in numbers, over a long period.

Psoriasis: Ultraviolet is of little value in treating the thickened patches, but will cure some of the skin patches. The same pessimistic prognosis should be given the patient with any type of treatment, although an occasional case will respond well to ultraviolet-ray therapy.

Eczema will, at times, respond well to ultraviolet therapy.—ROBERT AITKEN, M.D., in *Brit. J. Phys. Med.*, July, 1939.

Re-Establishment Of The Circulation In Extremities

HYPERTONIC saline solution (3 percent or higher) should be injected intravenously three times weekly to re-establish circulation in the extremities. Both arteriosclerosis and thromboangitis obliterans are benefited. Venous congestion should be applied daily with a blood-pressure cuff. The use of heat, in the form of pyretotherapy by typhoid vaccine, injected intravenously, local treatment, or alcohol three times daily, is of benefit. Insulin, thyroid extract, and Escatin are valuable measures for increasing the heart output and local tissue metabolism.—W. B. KOUNTZ, M.D., in *Arch. Phys. Ther.*, Mar., 1939.

The X-Ray Diagnosis of Intussusception

THE roentgenologic signs of intussusception are: (1) obstruction to the barium enema, with a filling defect; (2) mobility of the obstruction under manipulation; (3) a palpable mass; and (4) passage of the barium between the intussusceptum and intussusciens.

Although of more value in chronic, recurring intussusception, the roentgen rays are often diagnostic in acute invagination of the bowel. At times, the intussusception will be reduced by the barium enema. It must never be forgotten that the failure to find an intussusception does not rule out its presence, as the barium may temporarily reduce it.—J. B. KIRSNER, M.D., in *Radiol.*, Dec., 1939.

Diathermy in Coronary Disease

THERE is one condition that stands above all others in the need for diathermy, and that is coronary disease. It quickly relieves pain and establishes an improved circulation. This, together with attention to infected foci, rapidly places the patient out of the danger zone. Not only in coronary disease, but in many types of cardiac failure, in most of which an improved myocardial circulation is of great benefit, the use of diathermy is indicated.—S. PERN, M.D., in *Med. World* (Lond.), July 7, 1939.

**Brit. J. Phys. Med.*, Jan., 1939.

A Living for the Doctor

The Business of Medicine and the Art of Living



Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

Is Human Parthenogenesis Possible?

LIKE the search for the fountain of youth in the Middle Ages, today the question of parthenogenesis is one of perennial interest. The origin of life is one of the mysteries which as yet has not been solved, if, indeed, it ever will be. Which appeared first, the egg or the chicken, still perplexes the scientific thinker. To the average logician the origin *ab ovo* seems to be most logical; but at once looms the unanswerable question, whence came the egg? Like the endlessness of time and space the problem is incomprehensible, and the solution seems hopeless, beyond human conception. Nevertheless, the desire to produce life synthetically, other than by the prescribed method, has become an intensely interesting problem—almost an obsession—to many physiologists and biologists.

To be sure, in some of the lower forms of life, parthenogenesis (birth without fertilization by the male of the species) is a demonstrable fact. This is true of certain cryptogams, in which sexual organs appear which produce cells capable of giving rise to new individuals without the action of sexual reproductive cells; in certain plants, perfect embryos are produced without the intervention of pollen; and in some of the lowest forms of animal life a variety of agamogenesis or schizogony (reproductions by sporulation without fertilization) exists.

It is a long step, however, from this crude phase of parthenogenesis in the primitive forms of life to parthenogenesis in the highest manifestation of animal existence—the vertebrates. For a long time laboratory study and experimentation in this direction have been carried on by eminent and ingenious physiologists, such as Ivy, Pincus, and others, who have been utilizing, for the most part, the various sex hormones in their work, and with, at times, remarkable success. Various degrees of development of living tissues and organs have resulted. Probably Alexis Carrel's pulsating heart is the most remarkable instance of this seeming creation, or, at least, continuation, of life by laboratory methods. Therefore, the recent exhibition of what has been

termed "the first fatherless rabbit in history," by Dr. Gregory Pincus, of Clark University, before the New York Academy of Medicine, is a notable addition to the remarkable record of these daring and ingenious men.

This historic animal is a doe, born of an egg taken from another species of rabbit and stimulated (or fertilized, if you will) in a test tube by a simple salt-solution, and then implanted in a female rabbit, the foster mother. A normal pregnancy and delivery followed. To all appearances this remarkable product differs in no respect from a rabbit normally engendered. The foster mother merely served as a living incubator for the artificially fertilized (or stimulated) ovum. To the incredulous scientific thinker the query arises, "Is it not possible, through some error in technic or other defect in the process, that a sperm cell might have come in contact with the implanted ovum?" Even the most careful scientist is not infallible.

Remarkable as this experiment is, the eminent scientists who saw and examined the rabbit were unanimous in the opinion that the experiment could have no bearing whatever in relation to the human race.

Naturally, this noteworthy result in laboratory experimentation leads to the inevitable question, "Is parthenogenesis possible in man?" In this connection it is interesting to note that Nature, in some of her pathologic moods, has shown what seems to be an apparent attempt at parthenogenesis, as, for example, in the formation and development of dermoid cysts and teratomas. These peculiar tumors contain portions of the human body, at times quite extensive, which have grown without fertilization other than that derived from hormonal influence. There have also been described, within comparatively recent times, certain peculiar gonadal tumors in which an exaggeration of the masculine or feminine traits is produced in the individual by the hormonal excitation of these growths. Whether or not this can be called an abortive parthenogenesis is a mooted question. At

any rate, these pathologic developments seem to indicate strongly that, if parthenogenesis in man is possible, it will probably be brought about by sex hormonal action.

Granting that human parthenogenesis is possible, and especially that produced synthetically in the laboratory or through laboratory sex hormonal influence, at once the question arises, would such an accomplishment be desirable, from a sociologic and moral point of view? What would be the mental condition of such products, which would necessarily lack the atavistic and ancestral characteristics of a normally produced individual? Could such products properly be called human? Might it not

be that these synthetic products would lack the moral and humanitarian traits of the normal individual; in fact, become Frankenstein's monsters that would be a menace to human life and progress? Of course, such reasoning is purely theoretic—as, in truth, the entire subject is, at the present stage—but these questions would naturally arise in the minds of thinking persons. Notwithstanding these remote and thoroughly improbable, but seemingly possible, results, the inquisitive and enthusiastic physiologists will continue their investigations in this most enticing and enthralling field. We will await further progress in their study with deepening interest.

W. A. N. D.

★ Notes and Abstracts ★

Errors of Judgment

A QUALIFIED doctor, with experience and training and in the exercise of that degree of care which is generally exercised by the doctor of average skill and ability in that or similar localities, will not be compelled to respond in damages to a patient sustaining an injury because of an error of judgment. This is an exception to the rule as applied to the ordinary negligence case, in which the conduct of the person sought to be charged is measured and compared with the conduct of the ordinarily prudent person.

In the ordinary negligence case it is immaterial that the person charged with the commission of a wrong acted in good faith, thought his conduct proper, or believed it to be safe. Furthermore, if the wrong charged concerns physical facts and is governed by ordinary principles of intelligence or pertains to matters of common knowledge, the doctor is not exempted from the rules of the ordinary negligence case.

Under no circumstances can an incompetent or unqualified doctor benefit by the exception. Nor is the exception available to a doctor who has committed a gross error or an error so palpably wrong that it would not be committed by any doctor of ordinary skill. It is only where there is a reasonable doubt among competent doctors as to the diagnosis and treatment to be pursued that one can escape liability for the consequences of an error of judgment.

Errors of judgment must not be confused with negligence, which arises when a doctor, in the management of a case, fails to fully inform himself of circumstances, symptoms, and facts with respect to the patient's ailment or condition. With the great advancement made in the science of medicine in recent years and the extensive use of laboratories, a changing and an increasing obligation is being placed upon the medical and dental practitioner everywhere. The doctor is charged with knowledge and use of these advancements and new facilities. If he fails to keep abreast of the times and the advancement of his profession, he may find himself charged with negligence from which he may not be able to defend himself by claiming an

honest mistake of judgment.—"The Doctor and the Law" (Medical Protective Company, Wheaton, Ill.).



Keep Records!

EVERY physician should make and keep a *written record* of every patient he attends. This means office cases, home cases, and *hospital* cases. Anything unusual about the case should be noted on the record. These records should be preserved *indefinitely*, as malpractice suits may be brought even later than two years after the alleged error, if the patient is under 21 years of age or is mentally deranged.—J. F. DuBois, M.D., in *Minnesota Med.*, Aug., 1939.



State Medicine is poorhouse medicine.
Tell your patients.



Public Health and Private Health*

IT is assumed there is a spontaneous, informed, and wide-spread demand by the laity, particularly unemployed and unemployable and those on relief and subsistence level wage earners, for a quality of medical care and health protection not now available to them. This assumption, I believe to be false. The record would point to ingenious, persistent, organized propaganda and costly federal publicity and promotion to create a sense of dissatisfaction with the present medical services for the indigent and low-income groups, who almost without exception have shown grateful appreciation for and confidence in the care provided through existing administrative institutions and agencies for the sick. No one can have contact with the sick as they come to us willingly, hopefully, confident and expectantly, without knowing that they are grateful and satisfied that they are getting the best that can be offered—the best that can be had.

**America's Future*, Mid-Spring, 1939.

There are areas to which physicians and institutions have not gone, and thus must be provided for by new or extended assistance to the location of physicians in these parts.

It is assumed that the health officers and organizations for the sick of the states and subordinate jurisdictions of civil government—authorities appointed, trained, and qualified for expert care in public health—can, by virtue of federal grants and under federal regulation and restrictive standards, deal expertly with the elaborate services required for the sick in hospitals, dispensaries, and in individual homes, in spite of their lack of qualifications or familiarity with the diagnosis and treatment of disease.

You must distinguish the fact that the technic and responsibility of public health constitutes a specialty of medicine, as different from all other specialties as obstetrics differs from psychiatry. Practitioners of public health cannot be expected to take on the entire responsibility for organized care of the sick in the United States, and yet that is precisely the mechanism which has been created and provided for under the Wagner Bill. The only person in any state who shall have a chance to administer any of these several services that you have heard of in cooperation with the federal government, is the state health officer.

The state health officer has been picked not for his knowledge of the care of the sick, not for experience in clinical medicine, not because he has a reputation as a diagnostician in the treatment of disease, but because he has been trained to prevent disease, and that is as different, as I say, from care of the sick as obstetrics is from psychiatry.

It is quite impractical to take the 48 different state health officers in the United States and create in them a super-council responsible for the care of the sick. Remember how these health officers are appointed. Remember that the state of Texas had 22 health officers in 23 years. Remember that one qualification of the newly appointed health officer of the state of Pennsylvania is because he married the daughter of a Philadelphia boss. Remember that the newly appointed health officer of the state of Massachusetts was appointed as a result of a political huddle just before the new governor came in and in the face of the opposition of the entire medical profession in the State.

HAVEN EMERSON, A.M., M.D.
Prof. Pub. H. Adm., Columbia Univ.
New York City.

Health Insurance and State Medicine

VOLUNTARY health insurance is not the same as State Medicine. The latter, in the United States, is a plan by which one group—the taxpayers—finances medical care for another group—the unemployed and the indigent. The former is a plan by which an employed group of people finances medical care for itself.—C. RUFUS ROREM, in *The Rotarian*, Sept., 1939.

Towns Needing Doctors

FOLLOWING up our note in the October issue of "C.M.&S." on page 419, titled "Doctors Needed," here follows a partial list, from the *Nebraska State Medical Journal* of February, 1939, of towns

which, at that time, needed doctors, with the population of each town (where it was stated) following the name.

This information is nearly a year old, but some of these towns may still require medical service, and those who are interested need gamble only a few postage stamps to find out. Letters might be addressed to the Postmasters of the various towns.

Alton (1,014), Sioux County, Iowa.
Emerson (512), Mills County, Iowa.
Fairfield (6,619), Jefferson County, Iowa.
Kirkville, Wapello County, Iowa.
Lawton, Woodbury County, Iowa.
Manila (1,032), Crawford County, Iowa.
Minden, Pottawattamie County, Iowa.
Burlington Junction (813), Nodaway County, Missouri.

★ Books ★

Democracy and World Dominion Schoonmaker

DEMOCRACY AND WORLD DOMINION: An Analysis of the New Europe in Relation to the United States. By EDWIN D. SCHOONMAKER, Author of "The World Storm and Beyond," etc. New York: Richard R. Smith, 1939. Price, \$3.00.

THE domestic policy of any nation is its own affair, and at worst can result only in revolution; its foreign policy concerns all nations, because it may result in war. Frequently these two types of policy may be strongly at variance. Only the foreign policy of nations calls for the attention of those who work for peace.

In this remarkable and fascinating book, the author, a deep student of history and a trained world observer and writer, who is as thoroughly familiar with the recent behavior of the New Europe as he is with the past performances of the Old, sketches, in simple, swift-moving, and memorable words, the record, during the past 400 years, of the five great empires of Europe—Britain, France, Russia, Italy, and Germany—and demonstrates that the great democratic principle of equal rights and opportunities for all people has never been expressed in the foreign policy of those nations now calling themselves the "Democratic Powers."

We hear much, these days, about the hate-worthy "Aggressor Nations," who steal land from weaker peoples. Here is the record of 400 years. The reader can judge for himself which nations have earned the title, "Aggressors." The percentages represent the portion of these 400 years that each nation has been engaged in wars; the large figures, the amount of territory seized (stolen from weaker nations) as a result of these wars.

Great Britain	— 56% —	13,157,577 sq. miles
France	— 50% —	5,355,835 " "
Russia	— 46% —	8,144,228 " "
Italy	— 36% —	1,341,160 " "
Germany	— 28% —	258,863 " "

Other books have discussed special aspects of the European situation and the affairs of single nations over a generation or two. This broad survey covers the imperial development of the Five Nations up to now, giving a mass of historical, documentary (quoting page and paragraph), and intimate, first-hand information gathered in Europe, which cannot be found elsewhere, presented in a style which makes it more thrilling than any novel (readers are warned not to start reading it late at night!).

Every sincere and patriotic citizen of the United States should read this book; and if a substantial proportion of them do so, there can never be a chance that we can become involved in the imperialistic schemes and wars of Europe.

The Seminar



(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 11—1939 (Surgical)

Presented by Geoffrey E. Parker, F.R.C.S.,
London, Eng.

(See CLIN. MED. & SURG., Nov., 1939, page 458)

RECAPITULATION: A man of 22 years was admitted to the hospital December 18, 1936, with "chronic appendicitis," and appendectomy was performed through a tiny pararectal incision.

Nineteen (19) days later he passed a good deal of bright blood at stool; and the same thing occurred at the next stool, after four days of rest in bed, on which occasion he became almost pulseless and showed all the symptoms of a severe hemorrhage.

Rectal examination showed free, bright blood, which seemed to come from a point above the reach of a sigmoidoscope. All other examinations were negative.

Transfusions, rest, morphine, and small feedings of concentrated foods kept him comfortable for 8 days without a stool, but when his bowels did move, the hemorrhage nearly killed him. An immediate laparotomy saved his life.

Requirements: Suggest the probable condition found at operation, giving reasons, and outline the treatment.



Discussion by K. E. Ross, D.O., Tyler, Texas

The history of this case, as presented, offers but three salient points that would aid me in making a diagnosis, they are: (1) The fact that no clear cause could be found for bleeding from the rectum, by an apparently thorough rectal examination; (2) that a diagnosis of "chronic appendicitis", which experience has proved to be fraught with danger of being incorrect, and an operation which allowed of no exploration whatever, leaves us with a patient who is still seriously ill and who has an abdomen of which little is actually known; and (3) that bright-red blood, coming from the rectum in this case, must be coming from a lesion comparatively low in the intestinal tract.

On the basis of these points, there appear to be only two likely conditions that could produce such hemorrhage: The most likely is a complication occurring in a Meckel's diverticulum; the least likely is that erosion has occurred into a vessel from a foreign body left inadvertently in the abdomen during the previous operation. The pa-

tient's age, the laboratory findings, and other parts of the history, while not ruling out all other possibilities, are all consistent with Meckel's diverticulum, and with little else.

My treatment would be immediate operation, as suggested in the presentation of the problem, with the expectation of finding a diverticulum in trouble. This, if found, of course would demand removal, or possibly resection of the involved portion of gut somewhere within the last four feet of the ileum. It is to be noted, that *causeless* bleeding from the rectum means a diverticular pathosis to the gastrointestinal surgeon, to about the same degree that *causeless* bleeding from the vagina means placenta previa to the obstetrician.

Discussion by R. L. Gorrell, M.D., Clarion, Iowa

The question that presents itself at once: Is this hemorrhage arising in the appendiceal region, or is it due to an entirely independent condition?

In favor of the first diagnosis is the fact that the patient had never had any rectal bleeding until after the operation, and that a tiny incision had been used, with consequent likelihood of operative trauma and poor vision. In favor of the second possibility, is the long period intervening between the operation and the bleeding.

Of the three types of hemorrhage, immediate, (that which appears at once where a vessel is ruptured or punctured subcutaneously or cut across) and intermediate or *reactionary* (that which occurs within 24 hours after injury or operation and is usually due to slipping of a ligature or dislodgment of a clot) can be ruled out.

"Secondary or late hemorrhage is a term that is used to include all forms of bleeding after a lapse of 24 hours. *It is almost always due to infection*, and was very common before the introduction of aseptic surgery (Rose and Carless, in "A Manual of Surgery," 1937; William Wood and Company)." Such bleeding is often seen following amputations. Even if an appendix is not inflamed when it is removed, the colon may be opened, so that bacterial invasion may thus occur. Perhaps it is to be wondered at that infection does not follow appendectomy in more cases.

Post-appendectomy bleeding is apparently a rare occurrence: At least it is very infrequently reported. Thorek ("Surgical Errors and Safeguards"; J. B. Lippincott Co.) says, "Bitter disappointments have taught me to limit myself to the Battle vertical incision, which can always be

enlarged upward or downward, to afford the necessary field for thorough exploration. There are still some 'buttonhole artists' who pride themselves that they operate through an opening not larger than a buttonhole . . . A woman patient died forty-eight hours after an operation performed for removal of a chronically inflamed appendix. Post-mortem examination showed that she had died of hemorrhage, as a result of bleeding into the lumen of the bowel from the appendiceal artery . . . Secondary hemorrhage may occur after appendectomy, especially for acute appendicitis. A drainage tube may cause fatal erosion of the walls of the external iliac artery or vein."

Hamilton Bailey ("Emergency Surgery"; William Wood and Company; 1938) states, "Transfixion sutures should be used in ligating the meso-appendix, instead of simple ligatures. I have seen, at necropsy, a hematomperitoneum resulting from a slipped ligature on the meso-appendix . . . An experienced surgeon can, and sometimes does, put in a finger and hook out the appendix. To the beginner, the attempt to 'hook out' the appendix may result disastrously, especially if the organ is in the pelvis. Sir Frederick Treves records a fatal termination of such an operation by sudden, terrific hemorrhage. It is possible that the external iliac artery was hooked up, for this artery feels very much like the continuation of a pelvic appendix. The safest method of delivering the appendix is by gentle traction on the cecum. If the appendix does not come out kindly, it means that more room is required."

In the face of a second hemorrhage, *immediate laparotomy* must be performed, preferably through a right paramedian incision, and the cecum carefully examined.

Solution by Dr. Parker*

My preoperative diagnosis was a *pedunculated adenoma* somewhere in the colon, and I had been awaiting a favorable opportunity to localize it with a barium enema.

A rapid examination of the whole length of the colon showed it to be boggy and full of blood, but no tumor could be felt in the bowel wall. There were a number of recent adhesions around the appendix stump, which appeared to be in a state of more or less active inflammation. The cecum, at the site of the stump, was markedly edematous and inflamed, and contained a mass within the cecal wall. This was opened without difficulty, with the exploring finger, and was found to be an abscess cavity, in the wall of which was a spurting artery of medium size. This was ligated, the abscess cavity enlarged into the cecum to permit adequate drainage into the bowel lumen, and the

cecal wall closed with two rows of Lembert sutures. The patient made an uninterrupted recovery. Four months later, an examination revealed him to be fit and well.

Reactionary and secondary hemorrhage after appendectomy have been well described in the literature. A number of fatal cases have been reported, due either to non-ligation of the appendiceal stump, erosion caused by a drainage tube, or defective drainage of a large abscess in close relation to large blood vessels.

The patient was a well-built, muscular man, and the appendix had been removed through a minute, pararectal incision, made some distance from the site of that organ. If this had been a retrocecal appendix (and that seems likely from the history), its removal through such a small incision must have presented considerable difficulties, and the tissues in the region of the stump were probably bruised and their vitality lowered by the pulling about. Infection from the lumen of the bowel gained entrance through the damaged cecal wall, with the subsequent development of an abscess and erosion of a cecal vessel.

While admitting that *great reputations are not infrequently constructed around the use of small incisions*, I submit that the cosmetic result in such cases in no way justifies the turning of what ought to be a comparatively easy operation into a surgical hazard.



Problem No. 1—1940 (Diagnostic)*

Presented by P. W. Brown, M.D., and
E. G. Wakefield, M.D., Rochester, Minn.

A MAN, age 47, stated that, 4 years prior to our examination, he began to experience gnawing and burning in the epigastrium, beginning from 4 to 5 hours after meals. There was no regularity in this syndrome, as occasionally he had been free of it for periods of time as short as 2 days and as long as 6 weeks. During the past 3 or 4 months, he had lost 25 pounds in weight; the dyspepsia was more pronounced; and he vomited occasionally. The maximum distress was in the right epigastrium.

On repeated *roentgenologic examination*, the stomach appeared to be normal. Roentgenologic examination of the colon, employing a barium enema, gave negative results. Occasional erythrocytes and pus cells were found in the urine. *Blood study* showed a moderate secondary anemia.

Requirements: State the various diagnostic possibilities. What further studies would you require to make a positive diagnosis? Give reasons in discussing the differential points.

*Adapted from *Brit. M. J.*, June 10, 1939.

*Adapted from *Pennsylvania M. J.*

BUREAUCRACY

Of all forms of government, those administered by bureaus are about the least satisfactory . . . Being irresponsible, they become autocratic, they resist development. Unless bureaucracy is constantly resisted it breaks down representative government and overwhelms democracy. It is the one element in our institutions that sets up the pretense of having authority over everybody and being responsible to nobody.—CALVIN COOLIDGE (May 15, 1926).

Clinical Notes and Abstracts

★

Quinine and Urea Hydrochloride in Rectal Conditions

AS I do general practice, including general surgery, and merely give special attention to rectal conditions, I do not have a large number of proctologic patients in any one month, but I have had many during seventeen years. As criticism of the injection treatment of hemorrhoids has occasionally appeared in recent literature, I desire to report my results.

With a great deal of interest I read the round table discussion of the American College of Proctology, in 1935, and retained the journal¹ for re-reading. The men were using several different preparations (quinine and urea, phenol in oil, and other combinations), and all seemed to be obtaining good results. Dr. T. F. McNamara, of Rochester, N. Y., reported results exactly such as I have had, and stated that any return of hemorrhoids, after injection with quinine and urea, is not a true return, but a new hemorrhoid developing in some uninjected area. The cases (remarkably few) that have returned to me were not recurrences of hemorrhoids previously injected, but small piles developed in an uninjected area.

In seventeen years I have seen 4 recurrences, and in each case there was one small hemorrhoid, either anterior or rather low—as low as an internal hemorrhoid can develop. One patient who never finished the treatment, but merely obtained relief, came back no more.

Some cases, treated fifteen years ago, were so severe that the patient could not walk across the floor without the protrusion of a mass the size of a man's fist. In my experience, these large tumors are the simplest to treat and show the most satisfactory and lasting results.

S. D. Manheim and L. J. Drucker², in an article titled, "The Limitation of the Injection Treatment of Hemorrhoids," say of this form of tumor: "As this prolapse is due to redundant mucous membrane, it is obvious that the fibrous tissue obtained by the treatment will eventually become stretched by repeated acts of defecation, and that the prolapse will recur." Such has not been my experience.

Before attempting to treat these cases I make sure whether the patient actually has hemorrhoids, as any discomfort about the anal region is usually considered to be "piles," even though the mass frequently protrudes at each defecation, and must be replaced.

Technic

I use a 10 cc. syringe to inject 6 grains (0.375 Gm.) of quinine and urea hydrochloride, dissolved in 10 cc. of distilled water.

I inject internal to the internal sphincter muscle, using sufficient solution to fill the tissues until I can feel a watery tumor under my right index finger, which is used as a guide for the needle. I use no speculum, and at times inject as much as 20 cc. of solution. When there is any fear of prolapse, I use a pad with a T-binder.

If the mass or the tissue is not distended with 20 cc. of solution, I leave it for an injection a week later. However, if the tissue is distended sufficiently and there is not too much pressure, one injection will be sufficient and the hemorrhoid will atrophy.

In recurrences, or where another hemorrhoid develops, I inject just above the mass. These are the difficult cases.

The proper use of quinine and urea solution gives excellent results in redundancy—the cases which have boggy, loose tissue about the anus—and I have treated patients for what they said was a recurrence, and had them say that this solution gave much greater relief than was formerly experienced. One man said: "I feel better after your first injection than I did after my dismissal, before."

I have seen an occasional reaction to quinine, which was somewhat uncomfortable, but nothing serious. I have had a few sloughs, also with quinine and urea (in fifteen years, I recall two), but they were never serious.

There have also been a few abscesses, which occur at times in cases in which there was protrusion at each defecation, necessitating the replacing of the mass with the hand. Such frequent manipulation, and frequent prolapse, predispose to abscess.

Quinine and urea hydrochloride has produced rather lasting anesthesia in my cases, and it is not infrequent that the patient complains, after relief from hemorrhoids, of the numbness about the anus. It can be used, in a 2-percent solution, as an anesthetic when there is pain from fissure or a thrombus. This may be injected under the fissure in 1-cc. quantities; also, after a thrombus has been removed, a small amount, injected near or in the incision, will, when placed correctly, give complete and permanent relief.

M. O. ROBERTSON, M.D.

Bedford, Ind.



Amenorrhea and Menorrhagia

ALTHOUGH the occurrence of excessively long menstrual flow seems diametrically opposite to the amenorrhic state, there is a growing appreciation of the similarity between menorrhagia and amenorrhea, in the endocrine activity involved.

1.—*J. Am. Coll. Proc.*, Mar., 1935, p. 321.

2.—*New York State J. Med.*, Aug. 1, 1939.

Although not all cases of prolonged flow are due to absence of progestin action, there are more menorrhagic women with flow from a poorly developed estrin endometrium than with any other type. This statement obviously excludes cases with neoplasm, sepsis, or pregnancy as factors in the flowing. Although our studies of deficiencies in prothrombin time show that a few cases of menorrhagia are quickly relieved by the administration of vitamin K, this is probably an infrequent cause of bleeding. — E. L. SEVRINGHAUS, M.D., in *Am. J. Obstet. & Gynec.*, June, 1939.



Immediate Denture Service

IMMEDIATE denture service means the construction of the denture before all the teeth are removed and its insertion while the anesthetic is still effective. With the improved method the dentist now has of successfully taking impressions of the mouth with the teeth in place, the immediate placement of dentures is becoming one of the most satisfactory phases of dentistry. Patients do not have to go through an embarrassing period without teeth. The vertical dimension of the face is not lost and the expression is scarcely changed, as the cheeks and lips are not given a chance to fall in and become tight or drawn. The plate acts as a protection to the gums, so that there is less soreness than if the gums were not protected. — J. H. GUION, M.D., in *South. Med. & Surg.*, Oct., 1939.



Recent Advances in Vaccine Therapy*

ORAL administration of vaccines is worth trying, if the patient refuses to take the injections, but its value is uncertain. The oral vaccines against colds are ineffective.

The first injection of a toxin, toxoid, or vaccine does not usually produce a high or lasting titer of antibodies demonstrable in the blood of the inoculated animal. This primary stimulus, although it produces very little apparent effect, in some way sensitizes the cells of the animals so that, if a second injection of the same antigen is given after an interval of one or more months, there is a very rapid and complete rise in the antibody content of the blood.

Vaccines are suspensions or preparations of killed bacteria, which contain the antigens of the bacteria, the substances which stimulate the production of specific antibodies. A toxoid is an exotoxin that has been acted upon by formalin, by which it loses its toxic properties, but retains its antigenic powers. Diphtheria toxoid is extremely effective.

Tetanus toxoid injection is safe and causes no untoward reactions. It may also be combined with *tetanus antitoxin* injection and yield an even larger amount of antitoxin in the blood. The injection of toxoid protects against tetanus for some years, in contrast to the few weeks of immunity following the injection of antitetanic serum.

It would be a wise precaution for all physicians to be actively immunized by two doses of *tetanus toxoid*, so that, in case of a car accident, they would be protected, even if no antitoxin were given.

Staphylococcus: In the past few years, it has

been shown that the staphylococcus, such as can be isolated from a boil, produces a true exotoxin which can be detoxicated by formalin, and these toxoids may be used in the treatment of boils and other staphylococcal infections.

Toxoid therapy and vaccine therapy are complementary, as each represents an immunizing process with a different antigen of the staphylococcus, one giving an antitoxic and the other an antibacterial immunity. *If toxoid fails in the treatment of a case, vaccine should be employed, and vice versa.* Both may be necessary in the treatment of furunculosis, and neither seems to be more effective than the other.

Influenza: Experiments on animals indicate that immunization with Pfeiffer's bacillus may give partial protection against influenza and result in a milder course of disease. A virus vaccine may soon be available, which, either alone or in combination with the older bacterial vaccine, will give complete protection.

Common Cold: Much good can be done by the administration of "catarrhal vaccines" in the prevention of recurrent colds.

Pneumonia: The administration of a vaccine containing the pneumococcus, together with sulfapyridine or antipneumococcus serum, permits the body to develop its own active immunity. Studies have clearly shown that this added measure of protection definitely lowers mortality. A stock polyvalent vaccine should be administered at once. If typing can be carried out, a vaccine of the specific type should be obtained later. Even large doses of vaccine can be given during pneumonia, without risk of a negative phase.

Failures: To say that vaccine therapy has "failed," one must make sure that the proper vaccine has been administered. An American physician, who had been treated by every method, including vaccines made from his own sputum, without relief of his asthma, was found to have a hemolytic enterococcus in his stool. Progressively increasing doses of a vaccine of this organism has resulted in a complete cure over a period of 17 years.

ALEXANDER FLEMING, F.R.C.S.

London, England.



Undulant Fever

As a rule, the patient with undulant fever feels and looks remarkably well, in spite of a temperature of 102° F. or over. This is one of the most characteristic features of brucellosis; sweating also is a prominent feature, and enlargement of the spleen is one of the cardinal signs.

The background of the infection is a highly irregular fever, rising and falling, remitting and recrudescing, forming a series of waves but following no regular course, and persisting for long periods.

Cases in Iowa presented these symptoms, in the following order: (1) progressive afternoon weariness; (2) generalized aching; (3) anorexia; (4) some headache; (5) spells of chilliness in the early evening; (6) moderate insomnia; (7) backache and painful stiffness of the neck and joints; (8) loss of weight; and (9) anemia. *Weakness* is the most constant symptom and *fever* the most constant sign. Often there is no fever in the morning, or

*Brit. M. J., July 15, 1939.

between attacks.—I. FOREST HUDDLESON, M.S., Ph.D., in "Brucellosis in Man and Animals." (The Commonwealth Fund, 1939).

Thorek's Cholecystectomy*

STANDARD cholecystectomy and cholecystectomy by Thorek's method differ in only one essential particular. In standard cholecystectomy the gallbladder is removed *in toto*; in Thorek's method the portion of the gallbladder attached to the liver, and that portion only, is left attached and its mucosa destroyed by *electrocoagulation* (not fulguration). By allowing this strip of the gallbladder to remain, the integrity of the liver as an encapsulated organ is preserved. When, in standard cholecystectomy, the gallbladder is dissected from the liver, of necessity there is an area bared of capsule, from which seepage of bile and venous oozing are bound to occur, and drainage of the peritoneal cavity becomes a necessity. In Thorek's operation bile canaliculi or venules are not opened, and therefore drainage is unnecessary.



Fig. 1: (Left) The cystic duct and artery have been divided; the gallbladder is being split open, and the contents evacuated into Thorek's receptacle. (Packs are omitted for the sake of clearness.)

Fig. 2: (Center) The portion of the gallbladder which remains attached to the liver is electrocoagulated.

Fig. 3: (Right) The detached round ligament of the liver, or a piece of omentum, is sutured over the gallbladder bed.

The preliminary steps of the operation are carried out as usual. When the gallbladder has been exposed and evacuated, and the cystic duct and artery cut between ligatures, the viscus is split (see Fig. 1) and the redundant portion removed, with scissors or by electrocoagulation. The part attached to the liver is then electrocoagulated (see Fig. 2), with a current of low voltage and high amperage, and the edges approximated with catgut sutures. A detached portion of the falciform ligament or a free omental graft (see Fig. 3), is then stitched over the line of approximating sutures. The belly is closed without drainage.

In our series of 129 unselected cases, the wounds healed uneventfully, by first intention, in 122; in 7 complications developed, but the patients ultimately recovered; none died; postoperative discomfort was minimal and convalescence was rapid.

HAMILTON BAILEY, F.R.C.S.

R. J. McNEILL LOVE, M.S., F.R.C.S.

London, England.

Painful Knees Due to Improper Weight Distribution*

IMPROPER distribution of body weight is generally recognized as a cause of painful synovitis of the knee, but like many common conditions, is repeatedly overlooked. This type of chronic synovitis is so frequent a cause of pain and disability, and so easy to overlook, that the patients thus afflicted have been treated for "rheumatism," and "joint mice," by various measures, ranging from diathermy and tonsillectomy to arthrotomy, but all too few have been asked to remove their shoes to be examined for foot distortion.

In patients with weak and distorted feet, the weight-bearing line is thrown from its center, bringing about abnormal stress on the knee-joint capsule, the muscular supports, the cruciate, and particularly the internal lateral ligaments. The close relationship of the ligaments to the synovial membranes causes that membrane to be constantly irritated by the repeated trauma produced by the strain of weight bearing. The irritation sets up an inflammatory process, resulting in hypertrophy of the membrane, with villous proliferation. When we used to operate upon these joints, we found marked hypertrophy, hyperemia, and fibrosis of the synovial membrane, with extensive synovial villi.

Symptoms: Pain; disability; thickening of the knees; articular crepitation; improper distribution of the body weight; insufficient bony changes, as seen on the x-ray film to account for the symptoms; and, most striking, the return of the knees to normal when the body weight is properly distributed (reducing is often necessary also) and mechanical strain eliminated.

The symptoms are insidious and progress over a period of months or years. The pain may be diffuse, but more often it is localized in front of the lateral ligament or in the popliteal space; is increased on walking and standing; and is most severe when the knee is extended, particularly in descending stairs. Following rest, the knees are stiff, and the first movements may cause excruciating pain.

The patient may state that the knees "give way" when unguarded walking is attempted, especially after a rest period.

Signs: (1) Thickening of the soft parts of the knee, chiefly of the synovial membrane; (2) fine grating of the soft parts of the knee, which feels different from the crepitations of bone; (3) later, the knees become large and misshapen, as the subcutaneous tissues become thickened; (4) the fibrotic villi are so prominent that one may think they are "joint mice" or a displaced cartilage; (5) crepitation may be striking, and may be heard when standing a few feet from the patient.

Differential Diagnosis: Acute sprain or fracture is usually apparent from a history of violent trauma, abrupt onset, and the roentgen-ray findings; the therapeutic test will solve the question of an injured cartilage or "joint mouse"; if there is any doubt that arthritis is present in the knees,

*Brit. M. J., Sept. 30, 1939, Vol. II, p. 682.

*Arch. Phys. Therapy, July, 1939.

firm adhesive-tape strappings, holding the feet in dorsiflexion and inversion, will give dramatic symptomatic relief within two or three days.

Treatment: Foot plates and correct shoes will force the weight away from the inner side of the joints. Obesity, intestinal stasis, and foci of infection must be taken care of. Deep heat and massage of muscles are employed first; later, active, supervised exercises are carried out to strengthen the muscles, especially the quadriceps femoris.

WILLIAM H. IRISH, M.D.,
New York City.

Hyperthyroidism and the Anxiety Syndrome

TEN patients were operated upon as cases of hyperthyroidism. They were nervous and showed high basal metabolic rates, tachycardia, and tremor. Nervousness and tachycardia returned soon after the operation.

Differential diagnosis: If the patient has cold, clammy hands, hyperthyroidism can always be excluded. If the pulse rate drops to normal after some hours of rest, hyperthyroidism can be excluded. If the appetite is decreased, hyperthyroidism can usually be excluded. If no gland can be palpated, the diagnosis may well be questioned.

Dyspnea, flushing of the skin, excessive perspiration (especially of the palms and soles), a slight elevation in temperature, and intolerance to heat are common symptoms of both conditions.

Neither a high basal metabolic rate nor a clinical response to iodine is sufficient to establish a diagnosis of hyperthyroidism and to rule out the anxiety state.—GILBERT M. BECK, M.D., in *New York State J. Med.*, Aug. 1, 1939.

Endocrine Therapy in Childhood*

THYROID deficiency cases: The cretin requires and usually tolerates thyroid extract administered continuously. There are cretins who are sensitive to thyroid extract, in which instances I administer anterior pituitary extract, combined with a small dose of thyroid extract, and obtain good therapeutic results. This measure is also of value in cases of myxedema in childhood which are secondary to anterior pituitary hypofunction.

Occasionally, we see myxedema which does not respond to thyroid extract, but which promptly improves upon the oral administration of thyroxine. The other therapeutic agent available for hypothyroidism is the thyrotropic hormone of the pituitary.

Hyperthyroidism: Quinine hydrobromide, from 1 to 3 grains (200 to 325 mg.) daily, a hypernutrition diet rich in vitamins and calcium, and a regime of daily rest periods, are beneficial in hyperthyroidism in children. Calcium iodide, $\frac{1}{2}$ or $\frac{1}{4}$ grain daily for from 10 to 14 days, or premenstrually, until symptoms are controlled and weight gain is established, also acts favorably on this condition.

Growth hormone preparations have not proved satisfactory, either in my own practice or in that

of others, as recorded in the literature. The oral administration of anterior pituitary extract has proved effective in producing growth and gonadal development, even in cases where growth hormones have failed.

The obese, Frölich type of child is benefited by a weight-reducing diet; thyroid extract in larger doses than those required for the thin, short child; and anterior pituitary extract.

Cryptorchidism: Thyroid extract is used liberally in treating most of these cases. The use of injections of anterior-pituitary-like hormone may result in edema and hemorrhages. An increase in the weight of the testes does not necessarily mean increased testicular function.

Many boys referred for treatment have retractile testes, which do not need therapy. This potent preparation should be used sparingly until we know more of its biologic action.

Marasmus: Adrenal cortical therapy in marasmus has markedly reduced the death rate. One minim is injected daily for every two pounds of body weight, for a period of 14 days, and repeated again, after a rest period of two weeks, for from 6 to 10 weeks. This hormone is of value in the precollapse stages of severe toxic states, such as diphtheria.

Mumps: This disease may produce a severe toxic effect on the gonads which manifests itself, clinically, one or more years later. Cases of mumps should receive prophylactic and therapeutic serum therapy, in the hope that a possible future endocrinopathy may be avoided.

C. W. DUNN, M.D.
Philadelphia, Pa.

The "Naturally Thin" Patient*

THE so-called naturally thin patient who desires to increase weight, for making a better appearance and for an improved feeling of wellbeing and strength, is a common type. I am convinced that, if enduring results are to be obtained, a comprehensive method of management for the entire routine of living must be adopted.

No printed diet sheets should be given; instead the patient should be examined thoroughly to rule out tuberculosis, chronic infections, tumors, malformations, diabetes, severe nervous diseases, intoxications, mental diseases, endocrine diseases (hyperthyroidism, Addison's disease, Simmond's disease, pluriglandular insufficiency), postencephalitic cachexia, and vitamin deficiency diseases.

Placebo medication should be given, and changed weekly, to give the physician a chance to talk to the patient, to repeat instructions, and to follow the progress of the case. Stress to the patient the importance of continued, lifelong adherence to a regular routine of living.

Write down each of these instructions as you tell them to the patient: (1) Take a full glass (one-half pint) of strained orange juice at breakfast; (2) take one-half pint of cream, mixed with one quart of rich milk daily (two glasses of this milk-cream mixture are taken at 10 A.M. and at 4 P.M., and one glass at 8 P.M. Chocolate, malted milk, or Cocomalt may be added; (3) take two

*Pennsylvania M. J., July, 1939.

*Med. Rec., July 5, 1939.

tablespoonfuls of cod-liver oil after each meal (five drops of peppermint oil added to a pint of cod-liver oil make it palatable); (4) take a full glass of pineapple juice on retiring; (5) use a wide variety in foods—fruits (such as bananas, scraped apple, grapefruit juice, pineapple juice), vegetables, cereals of the whole-wheat type or oatmeal, eggs, meat, and generously buttered bread.

Make the meal hour pleasant. Keep sad or exciting news away from the table. Eat three meals daily, at regular hours; avoid alcohol, tobacco, coffee and tea, fried and greasy foods, strong seasonings, overloading with sweets, and preserved meats. Avoid excessive physical and mental exertion; take at least ten hours of rest nightly; rest for five minutes before and after each meal.

Maintain a correct posture (the physician should demonstrate this). Take judicious exercise in the open air, such as a daily walk for 20 minutes, and pleasant recreation. Remember that your mental attitude exerts a powerful influence upon your internal organs, therefore cultivate a happy, carefree outlook on life.

EDMUND KLINEFELTER, M.D.

York, Pa.

[In place of placebo tablets and hypodermic injections of sterile water, it would be far better to give injections of liver extract or vitamin, mineral, or endocrine preparations, and iron tablets or mild sedative tablets, if these were indicated. Some patients are clever enough to know placebo medication, but even if not, the physician will feel that he is misleading the patient.—Ed.]

Look for THE LEISURE HOUR among the advertising pages at the back.

Vitamin B₆ Deficiency

EXTREME nervousness, insomnia, irritability, abdominal pain, weakness, and difficulty in walking may be symptoms of vitamin B₆ deficiency. They are dramatically relieved by the intravenous injection of synthetic vitamin B₆—T. D. SPIES, M.D., *et al.*, in *J.A.M.A.*, June 10, 1939.

(As further investigation reveals that various fractions of the vitamin B complex may be clinically important, the clinician should remember Goldberger's warning to give all fractions, rather than synthetic, purified vitamins. The patients reported were successfully relieved of pellagra and beriberi, but nicotinic acid, thiamin chloride, and riboflavin did not relieve the symptoms above noted.—Ed.)

Charcoal as a Medicine

POWDERED charcoal may be applied as a dusting powder, either by swabbing or insufflation, to the tonsillar region in acute inflammations such as diphtheria, scarlatinal angina, or even in simple tonsillitis, and is said to be effective as a detoxicant and deodorant. When sprinkled upon moist eczematous surfaces, disappearance of moisture, irritation, and inflammatory phenomena follows. A teaspoonful, taken dry and washed down with fluid or, in children, mixed with scraped apple or

fruit juice, is a valuable corrective in many gastrointestinal disorders, including megacolon.

Charcoal powder is made by roasting coffee beans in an open pan until they are charred to blackness on the outside; they are then set aside overnight on a wooden platter in a warm, dry room, and finally passed through a grinder four or five times, until a powder of almost cosmetic fineness is attained.—*Med. World* (Lond.), Aug. 11, 1939.

Ice Bags

WHERE the application of an ice bag to the body is indicated, crushed ice for filling it is troublesome and soon melts. Better results are obtained by filling the bag with a mixture of equal parts of glycerin or Prestone (ethylene glycol) and placing it in the freezing chamber of a mechanical refrigerator for an hour. Thus the contents of the bag will be colder when applied and will stay cold longer than when filled with ice.—Security Laboratories, Burlington, Ia.

The Treatment of Syncope

SYNCOPE or fainting may cause great alarm to the relatives who believe such symptoms indicate heart failure. The physician should make a careful attempt to determine if the syncope is of cardiac origin, as cases of this type need treatment, whereas those of the non-cardiac type require only reassurance to the patient and family.

If the etiology is not discernible at once, and the heart rate is found to be slow and the patient unconscious, 1/50 to 1/25 grain (1.3 to 2.6 mg.) of atropine sulphate should be administered hypodermically. If the cause is reflex, immediate improvement will follow. If the situation is not relieved, or if convulsions occur, 1 cc. of epinephrine, 1:1,000, should be given subcutaneously, and the oral administration of ephedrine (3/8 to 3/4 of a grain—24 to 48 mg.) begun, to prolong the effect.—E. C. REIFENSTEIN, M.D., in *New York State J. Med.*, July 15, 1939.

The Function of Calcium in the Body

AN intelligent appreciation of the place of calcium in therapeutics necessitates a brief consideration of its metabolism and functions in the animal body. Lime and iron are the two minerals which are likely to be deficient in the dietary of man. Both occupy important positions in the body economy, especially during growth periods. Normal growth is largely dependent on the orderly absorption and retention of lime. Although most of the calcium is contained in the bones, this store must not be regarded as a dump, but rather as a mobile reserve, capable of responding to the calls of other tissues.

In the body fluids and soft tissues, calcium is of vital importance in the control of neuromuscular excitability; it plays an essential part in the maintenance of acid-base equilibrium and in the regulation of cellular permeability; and it is indispensable for the coagulation of blood and the clotting of milk.—NOAH MORSE, M.D., in *The Practitioner*, Sept., 1939.

Diagnostic Pointers



Carbon Monoxide Poisoning

● There are no signs or symptoms in the whole realm of medicine which cannot be simulated by neurasthenia, diabetes, or carbon monoxide poisoning.

Workers in blast furnaces, steel mills, mines, coke ovens, kilns, gas works, and garages, and also traffic policemen, are frequently affected. Persons living on crowded, busy thoroughfares often complain of headache, nausea, vomiting, dyspnea, and all sorts of other nervous symptoms, which disappear after a few days' residence in a suburb or the country.—J. T. ATTIX, M.D., in *Rev. Gastroenterol.*, June, 1939.

Pain in the Neck and Shoulders

● "Neuritis" or "rheumatism" in the nape of the neck and the right shoulder is a feature of gallstones and cholecystitis. Less often it is in the left shoulder, and occasionally radiates down the left arm. On pinching the shoulders (that is, the edge of the trapezius muscle), the right will sometimes be found to be sensitive or even tender.—HAROLD DODD, F.R.C.S., in *The Practitioner*, Dec., 1938.

Hypothyroidism in Abdominal Distention

● Three children who suffered from abdominal distention and retarded bone growth responded remarkably to the administration of thyroid extract. The abdominal distention receded and gradually disappeared, retarded development was overcome, and height increased. Celiac diseases, Hirschsprung's megacolon, and other diseases were considered in the differential diagnosis.—G. B. DORFF, M.D., in *Arch. Ped.*, May, 1939.

Cancer in Children

● A painless flank tumor, in a child under six years of age, usually unaccompanied by symptoms, is probably a malignant tumor of the kidney (sarcoma or Wilm's tumor).—Cancer Number of *The Practitioner*, July, 1939.

Cesarean Section and Future Pregnancies

● The performance of cesarean section by no means terminates a surgeon's responsibilities. Once he has performed it, he is charged with that woman's obstetric future, and he is morally responsible for what happens to her in her subsequent pregnancies. The scar is always a hazard as long as she is able to conceive, and since Gamble's disturbing investigation, we have no criterion by which to estimate its strength. Rupture is a possibility at any time after the sixth month, and the intervention of one or several natural deliveries confers no form of immunity.—R. T. LA VAKE, M.D., in *Minn. Med.*, July, 1938.

Peritonsillar and Retropharyngeal Abscess

● If the patient can open the mouth fairly widely, the condition is more likely to be a retropharyngeal abscess than a peritonsillar abscess. Difficulty in swallowing is usually the first symptom noticed by the parent in cases of retropharyngeal abscess, and a nasal, bleating type of voice develops. Examination may reveal a bulging forward of the mucosa, usually to one side of the midline, and edema of the palate, uvula, and pillars, although there is not so much congestion as is present in quinsy.

Palpation with the finger gives a sensation of fluctuation over the bulging area, and the bodies of the vertebrae cannot be palpated beneath the pharyngeal mucosa, if the swelling spreads over toward the midline.—C. J. IMPERATORI, M.D., in "Diseases of the Nose and Throat" (J. B. Lippincott Co.)

Prostatic Carcinoma

● The symptoms of prostatic cancer are those of a benign hypertrophy, but much quicker and more urgent. Frequency of urination and gradual obstruction to urination, in a man between 60 and 75 years old, in whom rectal examination shows a stony-hard, nodular prostate with loss of the interlobar groove (and possible fixation to the lateral walls of the pelvis), are usually conclusive evidence of cancer of the prostate gland.—Cancer Number of *The Practitioner*, July, 1939.

Sudden Enlargement of the Tonsil

● The sudden unilateral swelling of a tonsil, in a young adult or middle-aged person, should at once arouse the suspicion of a malignant condition (sarcoma, carcinoma). There is a feeling of fullness on the affected side, perhaps with an aching pain, but the pain is not, as a rule, a marked symptom.—Cancer Number of *The Practitioner*, July, 1939.

Gallstones

● After 35 years of abdominal surgery, I am convinced that, next to the appendix, the gallbladder is the most important viscus in the abdomen, from the point of view of disease. Gross pathologic conditions can be present for years with no symptoms, or with only occasional subcostal colic. "The fat, fertile female of fifty-five," who consults her practitioner for an attack of right subcostal colic, should be labeled as a case of gallstones.—P. T. CRYMBLE, M.B., F.R.C.S., in *The Practitioner*, July, 1939.

Dyspnea and Dysphagia

● Any patient who presents severe dyspnea and dysphagia, together with an upper respiratory infection and cervical adenitis, should have his throat examined digitally for a retropharyngeal abscess.—FRANK H. RIMER, M.D., in *Pennsylvania M. J.*, July, 1939.

Thumbnail Therapeutics



Potassium in Allergic Conditions

● Potassium therapy has been effective in hay fever, urticaria, angioneurotic edema, "chronic sinusitis," and nasal polyposis; a few cases of eczema and asthma were benefited; some asthmatic patients were made worse. By taking potassium before eating some food to which he is sensitive, the patient may avoid having an allergic reaction in any of the conditions just mentioned.

Potassium chloride is given in dilute solution (5 grains to the dram—0.325 Gm. to 4 cc.), in doses of from 5 to 15 grains (0.32 to 1.0 Gm.) three to four times daily.—BENSON BLOOM, M.D., C. S. KIBLER, M.D., and S. J. GRAUMAN, M.D., in A. M. A. Scientific Exhibit, May 18, 1939.

Vincent's Angina

● When red gum margins, pain, the impossibility of taking any sort of food, pyrexia, and the extension of ulceration beyond the gum margins, are grouped as a clinical picture, Vincent's angina may well be diagnosed, especially if confirmed by a bacteriologic examination.

There is only one effective treatment—the immediate intravenous injection of neocarsphenamine. A cleansing mouth wash or hydrogen peroxide may be used locally. — *Med. World* (Lond.), July 7, 1939.

Prolapsed Hemorrhoids

● For ambulant cases of prolapsed hemorrhoids, speedy relief may be assured by the injection of 5 cc. of an anesthetic in oil, into the external sphincter on each side of the rectum. The resulting anesthesia of the skin and relaxation of the sphincter bring about prompt relief. The injection should not be given deep into the internal sphincter, or all sphincteric control will be lost.—*Med. World* (Lond.), July 7, 1939.

Treatment of Testicular Injuries

● Injuries to the testicle, if accompanied by the extravasation of blood beneath the tunica albuginea, cause pain of a peculiar, sickening character, and if not relieved by a supporting appliance and the application of ice, are best treated by multiple incisions through the tunica vaginalis into the tunica albuginea, under general anesthesia.—HAROLD BALME, M.D., F.R.C.S., in *The Practitioner*, Dec., 1938.

The Treatment of Eczema of the External Ear

● A paste of coal tar and milk is recommended for all types of aural eczema. Tar preparations, as a whole, give good results. Where there is copious "weeping," preliminary treatment with a 5-percent alcoholic solution of silver nitrate is used.—*Med. World*, (Lond.), July 7, 1939.

Ascorbic Acid in Whooping Cough

● Material decrease in the duration of the paroxysmal stage of pertussis followed the use of 75 to 225 mg. of ascorbic acid (pure vitamin C). The average duration of this stage of the disease, in patients so treated, was one week. In addition, the daily number of coughing spells typical of pertussis was reduced, in some instances, to but one or two a day.—*New York State J. Med.*, April 15, 1939.

Ligation of the Umbilical Cord

● The less blood is left in the umbilical vessels, the higher will be the red blood-cell count of the infant. If the umbilical vessels are allowed to cease pulsating and collapse before they are ligated, very little blood will drain out of them. In infants whose umbilical vessels are ligated after they have ceased to pulsate, the average red cell count is greater by 580,000 than in those whose cords are ligated while still pulsating.—H. B. FRISCHKORN, M.D., and M. P. RUCKER, M.D., in *Am. J. Obstet. & Gynec.*, Oct., 1939.

Sulfanilamide in Gonorrheal Ophthalmia

● A daily dose of 2.6 Gm. of sulfanilamide was used during the first three days in the treatment of gonorrheal ophthalmia in adults. On the fourth day a daily dose of 1.95 Gm. was given, 0.65 Gm. (10 grains) being administered three times daily. The diagnosis was established by the clinical picture and by Gram-stained smears. All patients recovered in a spectacular manner and in a shorter period than is usually required. Smaller doses and special precautions must be used for patients with renal insufficiency, because the excretion of sulfanilamide is slow in such patients and drug accumulation occurs.—L. J. and R. F. FERNANDEZ, M.D., in *Am. J. Ophth.*, July, 1938.

● "A wise physician treats the patient, and a fool treats the disease."—WILLIAM OSLER, M.D.

Cardiac Pain

● It is my practice, in cases of anginal pain, to give 1/100 grain (0.64 mg.) of nitroglycerin, under the tongue or by hypodermic injection, and if no relief of the pain occurs in ten minutes, to repeat the dose. If no response follows the second dose, one may assume that coronary thrombosis has occurred, and morphine sulphate should be given in 1/4 to 1/2 grain (16 to 32 mg.) doses until the pain is relieved.—E. C. REIFENSTEIN, M.D., in *N.Y.S.J.M.*, July 15, 1939.



THE DOCTOR'S STUDY

Read not to contradict and confute; nor to believe and take for granted; nor to find talk and discourse; but to weigh and consider.—SIR FRANCIS BACON.

Anesthesia Dogliotti

ANESTHESIA: NARCOSIS, LOCAL, REGIONAL, SPINAL. By A. M. DOGLIOTTI, M.D., Professor of Surgery, University of Modena, Italy. Authorized English Translation by CARLO S. SCUDERI, M.S., M.D., F.A.C.S., Associate in Surgery, University of Illinois, College of Medicine. 17 Tables; 236 Illustrations, Parity in Colors. Chicago: S. B. Debow, Publishers. 1939. Price, \$7.50.

ONCE in a generation, a medical genius originates procedures of sparkling originality. Professor Dogliotti, whose novel and tremendously effective technics are better known and appreciated in South America and on the Continent, than they are in this country, has secured a place in the medical hall of fame, and confirms it by this volume.

Those who have used peridural anesthesia, which has all the advantages of spinal anesthesia and few of its disadvantages, appreciate this improvement in regional anesthesia. Dogliotti has presented anatomic and physiologic information, including colored sections of the spinal column with the peridural space injected, to substantiate his faith in this type of anesthesia. Odom, in this country, and Guileteriz, in South America, are enthusiastic about peridural anesthesia, after using it in thousands of cases.

Good clinical photographs and sketches show the application of local or regional block to practically every type of anesthesia. Spinal anesthesia is presented in full detail, as regards technic, indications, contraindications, complications, and management.

The chapters on narcosis are complete, including general anesthesia by inhalation using a mask, closed system, intratracheal insufflation, rectal anesthesia with ether and avertin, Evipal anesthesia, and basal anesthesia.

The general practitioner and surgeon who use local, regional, or spinal anesthesia will need this book. It will save their patients from general anesthetics for many operations and permit many minor operations to be carried out in the office—an important point in these depressed days. For example, by simple block of the median and ulnar nerves, plus a superficial infiltration, one can readily carry out any surgical procedure on the hand (incising of infected tendon sheaths, suturing of crushed fingers or their amputation, opening abscesses of hand, et cetera). The excellent photographs indicate the exact point to place the needle for injection.

Any physician who gives many anesthetics must have this work. Dr. Scuderi is to be congratulated on the excellence of his translation, which has nothing of the roughness and ambiguity we rather pessimistically expect in a translated work.

R. L. G.

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., is accompanied by a check for the published price of the book.

The Tissues of the Body Clark

THE TISSUES OF THE BODY. By W. E. LEGRAND CLARK, F.R.S., Dr. Lee's Professor of Anatomy in the University of Oxford, England. Oxford at the Clarendon Press. 1939. Price, \$5.50.

THE subtitle of this book is "An Introduction to the Study of Anatomy," but it is really far more interesting and enjoyable than such a title would imply. The clinician and the surgeon, as well as the student, may learn much of practical value and renew their sadly neglected acquaintance with the fundamentals of body tissues.

The tremendous importance of the deep fascia and its practical implications are but one example of the book's worth.

The practitioner who has lost some of his zest for study of the body, which burned so brightly within him as a student, will enjoy such sections as anatomic methods of studying bone growth (with a colored illustration of the tibiae), the self-determination of bone, and the anatomy of secretion, written by an author who makes dead anatomy live.

The contents include the study of tissues and their cellular basis, the development of tissues in the embryo, connective tissue, bone, muscle, tissues of joints, blood-vessels, blood, lymphatic tissues, mucous membranes and glands, skin, and the tissues of the nervous system.

The student who uses this as a companion book to this study of gross and microscopic anatomy will find that he is far ahead of his fellows in orientation as to the importance of the various structures and their significance in clinical medicine.

Practical Obstetrics Bland and Montgomery

PRACTICAL OBSTETRICS. By P. BROOKE BLAND, M.D., Emeritus Professor of Obstetrics, Jefferson Medical College; Consulting Obstetrician, Jefferson Medical College Hospital, Philadelphia; and THADDEUS L. MONTGOMERY, M.D., Clinical Professor of Obstetrics, Jefferson Medical College, Philadelphia. Third Revised Edition. 502 Engravings; 27 Colored Plates. Philadelphia: F. A. Davis Company. 1939. Price, \$8.00.

THIS is a very worth while book for the general practitioner who has not purchased an obstetric text for some years. The authors' advice is sound and conservative.

The book covers a much wider field than its name might imply, as the physiology of menstru-

ation, ovulation and maturation; the formation of the membranes; diseases of the new-born infant; and obstetric jurisprudence are also included. There are hundreds of good illustrations, which depict obstetric difficulties and proper methods of handling them.

The practitioner is advised to avoid any examination of the pelvis if the patient complains of painless bleeding, without apparent cause or warning, during the latter weeks of pregnancy, as placenta previa is probably present, and "no attempt should be made to complete the diagnosis until patient, obstetrician, and operating room are prepared for any eventuality. Any arrangement short of this may find the attendant with no facilities to combat the overwhelming hemorrhage which often starts when vaginal examination is undertaken."

The use of Alpha-Lobelin is mentioned under the treatment of infantile asphyxia. Those of us who have used the method of injecting this drug into the umbilical vein and "milking" it into the baby's circulation, enjoy the dramatic and quick respiratory motility which occur. Its efficacy was proved by a Brooklyn maternity hospital group last year, who measured the effect scientifically by kymographic recording. No technic is given or illustrated in the text.

The life-like illustrations of McNett are a joy to behold and wonderfully effective in driving home some point.

Surgical Anatomy

Bruce and Walmsley

BEESLY AND JOHNSTON'S MANUAL OF SURGICAL ANATOMY. Revised by JOHN BRUCE, M.B., F.R.C.S. (Edin.), Assistant Surgeon, Edinburgh Royal Infirmary; Assistant Surgeon, Leith Hospital; Lecturer in Clinical Surgery, University of Edinburgh; and ROBERT WALMSLEY, M.D., Lecturer on Anatomy, University of Edinburgh. Fifth Edition. London: Humphrey Milford, Oxford University Press. 1939. Price, \$6.50.

IN a handy size volume are here presented the important surgical and anatomic facts, so well written and illustrated with sketches, roentgenograms, and colored plates, that one finds it difficult to put down the book.

After a number of revisions, all the superfluous or surgically unimportant material has been deleted, with the result that the book reads like a master surgeon's advice to his students. The surgical importance of anatomic knowledge is stressed and made easy to find and remember. This is not intended to be a dissector's guide, but the student who refers to it will find that his knowledge can be applied.

Practical pointers are given throughout. For example, the epiphyseal gap is distinguished, on the roentgenogram, from a fracture by its dense, even margins. It is pointed out that attempts to reduce old-standing dislocations of the shoulder by Kocher's method may cause rupture of the axillary artery and laceration of the brachial plexus. The old method of traction, with the foot held in the axilla, does not entail any danger of spiral fracture of the humerus. The heel pressure should be directed toward the coracoid process, and not against the chest wall.

Cancer of the Colon and Rectum

Rankin and Graham

CANCER OF THE COLON AND RECTUM. Its Diagnosis and Treatment. By FRED W. RANKIN, B.A., M.A., M.D., F.A.C.S., Surgeon, St. Joseph's and Good Samaritan Hospitals, Lexington, Kentucky; and A. STEPHENS GRAHAM, M.D., M.S. (in Surgery), F.A.C.S., Surgeon, Stuart Circle Hospital, Richmond, Virginia; Assistant Professor of Surgery, Medical College of Virginia, Springfield, Illinois, and Baltimore, Maryland; Charles C Thomas. 1939. Price, \$5.50.

THIS monograph should become a surgical classic. It contains, in easily-read form, every diagnostic and therapeutic point of value in cancer of the colon and rectum. Surgical procedures are described and illustrated exceptionally well.

Instead of purely empirical clinical practice, the reader is given a sound foundation of anatomy,

physiology, and pathology on which to base his diagnosis and select the proper treatment. Radiotherapy is well described and its limitations given by Fred Hodges. Little mention is made of palliation with electrocoagulation of rectal growths.

Fifty pages are devoted to a worthwhile discussion of diagnosis and differential diagnosis. A few full-color or sharp black and white illustrations of various types of colonic and rectal carcinomas, as viewed through the proctoscope, would make the section more valuable.

Operative mortality, technics and pre- and postoperative care are described in detail.

Peripheral Vascular Diseases

Collens and Wilensky

PERIPHERAL VASCULAR DISEASES: DIAGNOSIS AND TREATMENT. By WILLIAM S. COLLENS, B.S., M.D., Metabolist, Chief of the Clinic for Peripheral Vascular Disease, and Chief of the Diabetic Clinic, Israel Zion Hospital, Brooklyn; Associate Visiting Physician, Greenport Hospital; etc., and NATHAN D. WILENSKY, M.D., Assistant in Clinic for Peripheral Vascular Disease, and in Diabetic Clinic, Israel Zion Hospital, etc. Springfield, Illinois, and Baltimore, Maryland: Charles C Thomas, Publisher. 1939. Price, \$4.50.

THE past few years have seen such an evolution in the study and treatment of vascular diseases that this monograph, by such eminent workers in the field, is especially timely.

They consider the anatomy and physiology of peripheral vascular pathways, all the various methods of examination, symptoms and signs of interference with arterial flow, peripheral vascular sclerosis, thrombo-angiitis obliterans, the Raynaud phenomenon, other forms of arterial obstruction, diseases associated with vasodilatation, and treatment, including the care and hygiene of the extremities; medical, physical, and surgical methods; intermittent venous occlusion (their own contribution); and treatment of special forms of vascular disease.

Few physicians are aware that acetylsalicylic acid is one of the most effective vasodilating drugs.

This book is a worthy addition to the library of the general practitioner, whose patients may consult him about pain on walking, vascular disease of the extremities, and gangrene; of the surgeon, who may wish to know the extent and competency of the circulation in an extremity before operating; and of the internist, who wishes to learn the essential facts in diagnosis and therapy of peripheral vascular disease.

Diseases of the Skin

Sutton and Sutton

DISEASES OF THE SKIN. By RICHARD L. SUTTON, M.D., Sc.D., LL.D., F.R.S. (Edin.), Professor of Dermatology, University of Kansas School of Medicine; and RICHARD L. SUTTON, JR., A.M., M.D., L.R.C.P. (Edin.), Associate in Dermatology, University of Kansas School of Medicine. 1,452 Illustrations; 21 Color Plates. Tenth Edition, Revised, Enlarged, and Reset. St. Louis: The C. V. Mosby Company. 1939. Price, \$15.00.

IN this one large volume, the physician will find an atlas of hundreds of photographs portraying the various skin diseases, and a complete discussion of each, as to diagnosis, treatment, etiology, and related facts.

Although the book is complete enough to be of value to the dermatologist, it is written in such a practical, direct manner that the general practitioner will be able to use it freely. The authors do not bog down the whole subject in highly technical terms descriptive of disease, nor do they suggest rare or exotic treatments, available only to the specialist.

This edition is classified into diseases caused by various agents (metabolic, virus, bacteria, fungi, animals, inflammations), atrophies, neuroses, malformations, pigment anomalies, new growths, and diseases particularly affecting the cutaneous appendages and mucosae adjoining the skin. The etiologic classification makes it much easier to associate diseases caused by the same bacteria or other harmful invader and to simplify treatment.

The Suttons strongly favor the use of the electric cautery for destruction of growths suggestive of malignancy and the opening of boils and carbuncles. Their arguments in favor of this simple apparatus are logical and sound.

No section can be selected for particular praise, as the entire book has been well worked over and recent advances incorporated throughout. The clinical photographs are sharp and clear; those which were beginning to show signs of wear were replaced for this edition.

Treatment, as it should be, is detailed and definite. No vague injunctions as to the trial of one remedy or another are to be found. Treatment is given in terms of local applications and of systemic therapy. The authors are to be commended for their frank admissions of approval and disapproval of certain methods. The reader consults an authority for an opinion, not a collection of abstracts from the literature.



The Rectum and Colon

Hayden

THE RECTUM AND COLON. By E. PARKER HAYDEN, M.D., F.A.C.S., Assistant in Surgery, Harvard Medical School, Boston; Assistant Surgeon and Chief of Rectal Clinic, Massachusetts General Hospital, Boston. 169 Engravings. Philadelphia: Lea and Febiger. 1939. Price, \$5.50.

THERE has been such a flood of books on rectal diseases during the past few years that one's first thought is that no more texts are needed. Hayden's compact volume is, however, a joy to the general practitioner and general surgeon, who wish to have a handy reference book which will, briefly and in a practical way, describe the common pathologic conditions to be found in the anus and colon, their ready diagnosis with simple methods, and the practical methods of treatment.

The author wastes no time in attempting to impress the reader with his erudition or researches into some rare phase of his subject. In every benign condition, he first presents acceptable palliative or expectant treatment and is frank to admit that many abnormalities, such as prolapse of the rectum in children, tend to recover spontaneously or with simple treatment. He does not emphasize the need of a proctologist to handle many rectal conditions.

His advice as to placing the patient in the proper position, having the upper buttock held up out of the way by the nurse or patient, use of a greasy lubricant instead of a water soluble lubricant which can be readily removed by a tight rectal sphincter, and many other pointers, makes the book invaluable for the young practitioner, the intern, and student.

Partial prolapse of the rectal mucosa in older persons is very well discussed and illustrated, as is also the subject of abscesses in and around the rectum.

It is unfortunate that the author, who well understands the nervous background for many cases of diarrhea, and discourages the loose designation of "colitis," apparently has not yet grasped the significance of the investigations, first conducted in England and then in this country, of the emotional background of patients with true ulcerative colitis.

Full technic and descriptions are given of the surgical attack upon various tumors and inflammatory processes of the rectum and colon, including colectomy, ileostomy, and abdominoperineal resection.



Neuro-Anatomy

Larsell

TEXTBOOK OF NEURO-ANATOMY AND THE SENSE ORGANS. By O. LARSELL, PH.D., Professor of Anatomy, University of Oregon Medical School, Portland, New York and London: D. Appleton-Century Company, Inc. 1939. Price, \$6.00.

THE purpose of this presentation is to aid the student to think as early as possible in terms of functional anatomy. It has been written primarily for the first-year medical student who is

receiving instruction in the intricate anatomy of the nervous system. The author gives more attention to the sense organs than is "necessary from a strictly neurologic standpoint, because, in many laboratories, the sense organs are studied in connection with the nervous system, rather than with the course in histology."

The book is subdivided into functional systems, and "considerable emphasis has been placed on functional aspects of the various divisions of the nervous system. The entire purpose has been to give the student a conception of the nervous system as a *living, active mechanism*." At the end of a number of chapters, a brief description is given of some lesions in various parts of the nervous system and their neuro-anatomic bases.

There are several hundred illustrations, which are remarkably clear line drawings—a welcome change from the usual photomicrographs. The text is smooth and coherent, and understandable by the average student.

Only three and one-half pages are devoted to the cerebrospinal fluid, and three to the ventricles of the brain. In view of their tremendous clinical importance, it is hoped that the next edition will furnish more material, including ventriculograms, so that the student may visualize the ventricles in relation to the brain and skull, a feat almost impossible of accomplishment by viewing casts of the ventricles.



Babies Are Human Beings

Aldrich

BABIES ARE HUMAN BEINGS: The Interpretation of Growth. By C. ANDERSON ALDRICH, M.D., Associate Professor of Pediatrics, Northwestern University Medical School; and MARY ALDRICH, New York: The Macmillan Company. 1938. Price, \$1.75.

BABIES are Human Beings indeed! Anchored on this premise the Aldrich interpretation assumes a viewpoint refreshingly different from that taken by other critical observers of infants.

While pediatric and psychologic practice has pointed a generally accepted way in child care, based on the fact that physical care and training, from birth on, have a definite influence on mental and emotional development, none have integrated these studies with the significance of real parental understanding and responsibility in simple practical applications. A few of the regulations which past studies tagged on babyhood will be found at direct variance with these new deductions. Among them the fact that a "newly born baby is by no means a passive individual," and neither is his activity and general behavior random, but "full of meaning"; and he *does* need cuddling and lullabies, so that he may make a happy orientation in his complex world.

Custom and tradition are still stern dictators in baby world and, as an infant grows in responses, conformity is far from simple, so that he is especially in need of sympathetic understanding.

Special chapters are devoted to a discussion of eating, sleeping, eliminating, and "Do's and Don'ts," representing controversial questions of care and hygiene. In spite of the confusion resulting from controversy concerning the baby's affairs, babies, as a rule, grow into "fairly adequate individuals" and it is this resilient quality which gives them the ability to adapt without breaking under the strain.

In concluding "implications for older children," attention is called to the fact that the dynamic urge, which is such an important resource in babyhood, is also a most acceptable trait in adult life and should be fostered. Tolerant interpretation of its force is most essential. Other dominant characteristics which continue through life are "a demand for gratification," active resistance to the imposition of outside force—a protection to individuality—and "a capacity for hearty enjoyment." As the developmental plan requires understanding parental support in babyhood, so in later progress does it need sustained sympathetic backing.

The appendix of this volume carries a "concrete outline of a developmental schedule" for the first two years.

Interesting diction and informal style, together with emphasis on the "human element" in interpreting the well-chosen material, make this book distinctive among writings on the subject. Any

physician may recommend it, to parents and those associated with the care and instruction of children, without reservations.



A. N.

Treatment of Rheumatism

Copeman

THE TREATMENT OF RHEUMATISM IN GENERAL PRACTICE. By W. S. C. COPEMAN, M.A., M.D., B.Ch. (CANTAB.), F.R.C.P. (LOND.), Physician in charge, Department of Chronic Rheumatic Diseases, West London Hospital; Consultant to London County Council and Medical Secretary, Empire Rheumatism Council; etc. Third Edition. Baltimore: The Williams and Wilkins Company. 1939. Price, \$4.00.

IT is gradually becoming known to the medical profession that the rheumatic diseases, including arthritis, fibrositis (lumbago, neuralgia, "stiff neck," etc.), and rheumatic fever, are the chief causes of disability today, not only in the sense of immediate disability and pain but in the causation of future deformity and impaired function.

Copeman furnishes a straightforward, unbiased review of present-day methods of treatment. Newer advances, such as gold-salt therapy, histamine, bee-venom, and intravenous calcium therapy in rheumatoid arthritis; short-wave diathermy, Novocain (procaine) injections after the method of Lewis, roentgen irradiation, and estrin compounds for menopausal arthritis, are included. His sense of humor is delightful; his words witty, as well as wise. His suggestions for practical simple treatment are exemplified in the use of a simple warm bath (99° F.) for immersion of choreic children night and morning, which has a sedative effect.

Baptism by Physicians

Bowen

BAPTISM OF THE INFANT AND THE FETUS. An Outline for the Use of Doctors and Nurses. By THE REV. J. R. BOWEN, President of the Iowa-Nebraska Conference of Hospital Chaplains, etc. Fourth Edition. Paper. Dubuque, Ia.: The M. J. Knippel Co., 1939. Price, 25 cents.

WHATEVER a physician's religious affiliations or convictions may or may not be, he has no right to offend, or even disregard, the desires and feelings of his patients, so long as these do not conflict with his strictly professional ministrations. Successful physicians will go out of their way to do things that will make their patients happier. That is why they are successful.

Roman Catholics lay an amount of stress on baptism which few Protestants and no agnostics can understand, and if no priest is at hand to baptize an unborn or newly-born infant or fetus that is in danger of death, valid baptism can and should be administered by the attending physician, a nurse, or any layman who is present, if the proper, and entirely simple, procedure is understood.

This small brochure (12 pages) has been prepared and officially authorized, in order that no physician or nurse need be ignorant of the indications for and the proper form of this ceremony. If it is read carefully, two or three times, one should be able to remember what is required, but a copy of this booklet should be at hand in the delivery room of every hospital and in the handbag of every physician and nurse who handles obstetric cases, and should be read from time to time, to keep the memory refreshed.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE. A University of Toronto Text in Applied Physiology. By CHARLES HERBERT BEST, M.A., M.D., D.Sc. (LOND.), F.R.S., F.R.C.P. (CANADA); and NORMAN BURKE TAYLOR, M.D., F.R.S. (CANADA), F.R.C.S. (EDIN.), F.R.C.P. (CANADA), M.R.C.S. (ENG.), L.R.C.P. (LOND.). 2nd Edition. Baltimore: The Williams & Wilkins Company. 1939. Price, \$10.00.

A HANDBOOK OF ELEMENTARY PSYCHOBIOLOGY AND PSYCHIATRY. By EDWARD G. BILLINGS, B.S., M.D., M.D. CUM LAUDE (IND.). New York: The Macmillan Company. 1939. Price, \$2.00.

ATLAS OF SURGICAL OPERATIONS. By ELLIOTT C. CUTLER, M.D.; and ROBERT ZOLLINGER, M.D. New York: The Macmillan Company. 1939. Price, \$5.00.

THE SURGERY OF INJURY AND PLASTIC REPAIR. By SAMUEL FOMON, Ph.D., M.D. Baltimore: The Williams & Wilkins Company. 1939. Price, \$15.00.

BACTERIOLOGY. Cho Medica Series. By WILLIAM W. FORD, M.D., D.P.H. Edited by E. B. KRUMHABER, M.D. New York: Paul B. Hoeber, Inc. 1939. Price, \$2.50.

ENDOCRINE GYNECOLOGY. By E. C. HAMBLIN, B.S., M.D., F.A.C.S. Foreword by J. B. COLLIP, M.D. Springfield: Charles C Thomas. 1939. Price, \$5.50.

CIRCULATORY DISEASES OF THE EXTREMITIES. By JOHN HOMANS, M.D. New York: The Macmillan Company. 1939. Price, \$4.50.

CANCER OF THE LARYNX. By CHEVALIER JACKSON, M.D., Sc.D., LL.D., F.A.C.S.; and CHEVALIER L. JACKSON, A.B., M.D., M.Sc. (MED.), F.A.C.S. Philadelphia: W. B. Saunders Company. 1939. Price, \$8.00.

TUMORS OF THE HANDS AND FEET. Edited by GEORGE T. PACK, B.S., M.D., F.A.C.S. St. Louis: The C. V. Mosby Company. 1939. Price, \$3.00.

PROCTOSCOPIC EXAMINATION AND DIAGNOSIS AND TREATMENT OF DIARRHEAS. By M. H. STRICHER, M.S., M.D. Springfield: Charles C Thomas. 1940. Price, \$3.00.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE ESOPHAGUS. By FORSTER P. VINSON, B.S., M.A., M.D., D.Sc., F.A.C.P. Springfield: Charles C Thomas. 1940. Price, \$4.00.

AN INTRODUCTION TO DERMATOLOGY. By NORMAN WALKER, Kt., M.D., LL.D., F.R.C.P.; and G. H. PERCIVAL, M.D., Ph.D., F.R.C.P. 10th Edition. Baltimore: The Williams & Wilkins Company. 1939. Price, \$7.00.

BLOOD GROUPS AND BLOOD TRANSFUSION. By ALEXANDER S. WIENER, A.B., M.D. 2nd Edition. Springfield: Charles C Thomas. 1939. Price, \$5.00.

THE LOTUS FIRE. A Study in Symbolic Yoga. By GEORGE S. ARUNDALE, Wheaton, Illinois: The Theosophical Press. 1939. Price, \$6.50.

REINCARNATION. The Cycle of Necessity. By MANLY P. HALL. Los Angeles: The Philosophers Press. 1939. Price, \$2.00.

INDUSTRIAL HYGIENE. A Handbook of Hygiene and Toxicology for Engineers and Plant Managers. By LAURENCE B. CHENOWETH, A.B., M.D.; and WILLARD MACHLE, B.S., M.D. With a Foreword by HERMAN SCHNEIDER, Sc.D., LL.D. New York: F. S. Crofts & Company. 1939. Price, \$2.00.

ESSENTIALS OF MEDICAL ELECTRICITY. By ELKIN P. CUMBERBATCH, M.A., B.M. (OXON.), D.M. R.E. (CAMB.), F.R.C.P. 8th Edition, Revised and Enlarged. Cleveland, Ohio: The Sherwood Press. 1939. Price, \$5.00, plus postage.

BIOLOGICAL PRODUCTS. By LOUIS GERSHENFELD, P.D., B.Sc., Ph.M. New York: Romaine Pierson Publishers, Inc. 1939. Price, \$4.00.

MANUAL OF COSMETICS. By CHARLES LAZAR, M.D. Cleveland, Ohio: The Sherwood Press. 1938. Price, \$5.00.

APPLIED KINESIOLOGY. Work-Study Guide. By FERD JOHN LIPOVETZ. Minneapolis, Minnesota: Burgess Publishing Company. 1939. Price, \$2.25.

—Medical News—



New Therapeutic Research Institute

WILLIAM R. WARNER AND Co., Schering and Glatz, and affiliated companies have recently opened the new Warner Institute for Therapeutic Research, under the direction of Dr. Marvin R. Thompson, formerly professor of pharmacology and therapeutics at the University of Maryland, where research for the development and improvement of therapeutic agents and of measures for diagnosis and treatment will be carried on. A picture of one of the chemical laboratories appears above. Studies in chemistry, biologics and pharmacy will be undertaken, to provide better drugs, in more acceptable forms, for the medical profession. The Institute is fully equipped and has a staff of ten department heads, with necessary assistants and technicians.

The products we advertise are worthy of your attention. Look them over.

Standardized Catgut

FOR the first time, in this country, a set of official standards for surgical catgut, as to sterility, tensile strength, length and diameter, and absorbability, has been established by recognized authority. This has been accomplished by a special advisory board of the Pharmacopeia, with the co-operation of officials of the Public Health Service, the Army, the Navy, the Food and Drug Administration, the College of Surgeons, the A. M. A., the A. H. A., and other groups, and also of the manufacturers of surgical supplies. It will now be possible for surgeons to use catgut with full confidence that it will do what is expected of it.

Clinic Tours

THE American Spring Assemblies of the Interstate Postgraduate Medical Association will run from April 19 to May 14, 1940, inclusive, and will include Rochester, Minn. (Mayo Clinic), Chicago, Cleveland, Boston, New York, New Haven, Philadelphia, Baltimore, and Washington.

The South American Assemblies will begin May 17, 1940, and run to July 9 (east coast only) or July 16 (east and west coasts). The countries to be visited are Brazil, Uruguay, Argentina, Chile, Peru, Ecuador, Colombia, Panama, and Cuba.

For full information regarding either or both of these clinic tours, write to Dr. W. B. Peck, Freeport, Ill.

Abbott Estate Endows Research

IN closing the estate of the widow of Dr. Wallace C. Abbott, founder of Abbott Laboratories, the trustees of the estate have recently announced gifts of \$1,500,000 to Northwestern University and \$1,000,000 to the University of Chicago, to support and promote research in biology and other fields allied to medicine. Gifts of \$250,000 each were also made to Victory Memorial Hospital, Waukegan, Ill.; Evanston Hospital, Evanston, Ill.; and Knox College, Galesburg, Ill. Dr. and Mrs. Abbott were both deeply interested in research work, as these munificent bequests testify.

Sixtieth Anniversary of the Keeley Cure

THE Keeley Institute, of Dwight, Ill., famed for the treatment of alcoholism, recently celebrated its 60th anniversary, and pointed with pride to its more than 400,000 "graduates," though it is impossible to prove how many of them stayed cured. To physicians who speak skeptically of this institution, the retort is made that they have "cured" 17,000 drunken doctors in these 60 years.

Climate and Weather in Disease

PHYSICIANS who are interested in the effects of climate and weather on disease states, as well as on plants and animals, will be glad to know that *Biological Abstracts* has extended its service to cover the various phases of *bioclimatology* and *biometeorology*. Those who desire information on these subjects will do well to write to *Biological Abstracts*, University of Pennsylvania, Philadelphia, Pa., for full details of this service.



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| 9 Elixir Bromaurate in the Treatment of Whooping Cough and other Persistent Coughs. Report of Cases. (Booklet.) Gold Pharmacal Co. | 33 Foot Weakness and Correction for the Physician. The Scholl Mfg. Co., Inc. |
| 11 Chondroitin; for Treatment of Idiopathic Headache. The Wilson Labs. | 41 Oreton—Male Sex Hormone. Schering Corp. |
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- 99 A Survey in Two Fields of Medicine. A. C. Barnes Co. _____
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- 146 Moru-Quin for Injection Treatment of Varicose Veins. The National Drug Co. _____
- 148 Ampoule Products for Subcutaneous, Intramuscular, and Intravenous Medication. Associated Physicians Labs. _____
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